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INTERNATIONAL JOINT COMMISSION

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ST. CROIX RIVER  
FISHWAYS



INTERNATIONAL JOINT COMMISSION

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# ST. CROIX RIVER FISHWAYS

IN THE MATTER OF  
THE APPLICATION OF THE COMMISSIONER  
OF INLAND FISHERIES AND GAME FOR THE  
STATE OF MAINE FOR THE ERECTION  
AND REPAIR OF FISHWAYS IN  
THE ST. CROIX RIVER

ORDER  
TOGETHER WITH APPLICATION  
STATEMENT IN RESPONSE  
HEARINGS AND ARGUMENTS

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APPLICATION FILED JUNE 19, 1923  
DECIDED OCTOBER 3, 1923



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1924

**INTERNATIONAL JOINT COMMISSION**

**UNITED STATES**

CLARENCE D. CLARK, CHAIRMAN  
MARCUS A. SMITH  
CHARLES E. TOWNSEND

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WILLIAM H. SMITH, SECRETARY

**CANADA**

CHARLES A. MAGRATH, CHAIRMAN  
HENRY A. POWELL, K. C.  
SIR WILLIAM HEARST, K. C. M. G.

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LAWRENCE J. BURPEE, SECRETARY

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CLARENCE D. CLARK, CHAIRMAN  
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WILLIAM H. SMITH, SECRETARY

**IN RE THE APPLICATION OF THE COMMISSIONER OF INLAND  
FISHERIES AND GAME FOR THE STATE OF MAINE FOR THE  
ERECTION AND REPAIR OF FISHWAYS IN THE ST. CROIX RIVER.**

**ORDER.**

Whereas, the Commissioner of Inland Fisheries and Game for the State of Maine, filed with the International Joint Commission an application to "grant consent and authority to all dam owners on the St. Croix River, including the owners of the dams of the St. Croix Gas Light Company and Canadian Cottons, Limited, to erect and repair fishways in the said dams as might be approved by the said Commissioner of Inland Fisheries and Game for the State of Maine and the authorized representatives of the Government of Canada," and

Whereas, the Government of the United States has referred said application to the International Joint Commission for appropriate action in respect of the two dams designated as the St. Croix Gas Light dam and the Canadian Cottons, Limited, dam and

Whereas, by Order-in-Council dated the 24th day of July, A. D. 1923, the Commission was informed that the Government of Canada has no objection to approval being given to the application and plans for permission to construct and maintain fishways in the two dams specifically enumerated, namely, those of the St. Croix Gas Light Company and of the Canadian Cottons, Limited, and

Whereas, the said application so referred as aforesaid came on for hearing at the town of St. Andrews, in the Province of New Brunswick, in the Dominion of Canada, on the 3rd day of August, A. D. 1923, and notice of the filing of the said application and of the time and place of the said hearing having been given to all parties interested in both countries, and the Commission having heard the evidence adduced by all parties interested with respect thereto, and also having heard counsel on behalf of all parties concerned, and having taken time to consider its judgment in the matter, and

Whereas, it has been made to appear to the Commission that a certain dam for power purposes was constructed across the St. Croix River, a boundary stream between the Province of New



Brunswick in the Dominion of Canada, and the State of Maine in the United States of America, at a point above the town of St. Stephen by the St. Croix Gas Light Company known as the St. Croix Gas Light Company's dam, and that at a point above the town of St. Stephen on said river a dam was constructed for power purposes, which said dam is now owned and operated by the Canadian Cottons, Limited, and that in the construction of said dams practicable and efficient fishways were provided for the passage of fish up the said stream; and that by disuse and reconstruction of said dams the said fishways have become inefficient or totally obliterated.

Now, therefore, it is hereby ordered, that the Commission approves of the construction and repair of the said two mentioned fishways in accordance with the plans heretofore agreed upon between the Commissioner of Inland Fisheries and Game for the State of Maine and the Department of Marine and Fisheries of Canada, or in accordance with such modifications of the said plans, or in accordance with such other plans as may be agreed upon between the said Commissioner of Inland Fisheries and Game and the said Department of Marine and Fisheries and submitted to and approved by the Commission; such amended plans or other plans to be filed with the Commission within sixty days of the date hereof.

It is recommended that the said fishways should be operated under an International Board of Control.

Dated at Ottawa, Canada, this 3rd day of October, 1923.

C. D. CLARK.  
C. A. MAGRATH.  
M. A. SMITH.  
W. H. HEARST.  
CHAS. E. TOWNSEND.  
HENRY A. POWELL.

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#### APPLICATION.

To the INTERNATIONAL JOINT COMMISSION,

*Washington, D. C.*

HONORABLE SIRs: The undersigned, Willis E. Parsons, Commissioner of Inland Fisheries and Game for the State of Maine, would respectfully represent that as such Commissioner he has jurisdiction over the construction and maintenance of all fishways in the rivers and streams of said State.

That the St. Croix River on the easterly border of said State is a part of the International boundary between said State of Maine and

New Brunswick, a Province of the Dominion of Canada, and that fishways permitting the passage of migratory fish have been constructed on the dams on said river and maintained for more than a generation, or since 1867, and that the two lower fishways, to wit, the one which existed at the first dam or tide water now owned or occupied by the St. Croix Gas Light Company, and the second dam owned by the Canadian Cottons, Limited, have fallen into decay and become useless, in fact, wholly obliterated, so that it now becomes necessary to construct a new fishway at each of said dams.

And further, that the said State of Maine through its said Commissioner and the Canadian Government at Ottawa by its legal representative have approved plans for the construction of such fishways and are ready to proceed with such construction on the assumption that the amount of water used for a fishway is negligible and not a material "diversion" of boundary waters on the other side of the line, as contemplated in Article III of the Treaty between the United States of America and His Majesty, the King of the United Kingdom of Great Britain, dated the 11th day of January, 1909, or if it should be found to be a technical diversion, that it would be a "diversion heretofore permitted," as referred to in said Article III and not "further or other use" as would be affected by said treaty.

If, however, your Honorable Body shall find and determine that new construction of said fishways, or the repairs of any of the said fishways on said dams above referred to on said international waters of however long standing, which repairs are necessary frequently on short notice, is under the jurisdiction of your Honorable Commission.

Application is hereby made to said International Joint Commission to grant consent and authority to all dam owners on said St. Croix River, to wit, international boundary, to erect such fishways as may be approved by said Commissioner for Maine and the legal representative of the Canadian Government as aforesaid, granting your consent and approval to such construction of new fishways and future repairs of existing fishways, as may be approved as aforesaid by the State of Maine and the Canadian Government by their legal representatives as aforesaid and in accordance with plans jointly approved by them.

And to do, make and perform such other acts and decrees by your Honorable Joint Commission as shall enable the said Commissioner of Maine and Legal representatives of said Canadian Government in case of emergency, or otherwise, from time to time, as it may become necessary, on proper notice to dam owners as provided by the laws of Maine and of Canada, to direct and require of any or all of said dam owners on said St. Croix River such construction or repairs on

any fishway for their respective dams as in the judgment of said Maine and Canadian officials may be deemed necessary for the proper passage of migratory fish, as contemplated by the laws of the Canadian Government and of the State of Maine, such authority being for the mutual advantage and benefit of both countries, the Dominion of Canada and the State of Maine, as an integral part of the United States of America.

Dated May 24, 1923.

(Signed) WILLIS E. PARSONS,  
*Commissioner of Inland Fisheries and Game,*  
*for the State of Maine.*

## INTERNATIONAL JOINT COMMISSION.

IN THE MATTER OF THE APPLICATION OF WILLIS E. PARSONS, COMMISSIONER OF INLAND FISHERIES AND GAME FOR THE STATE OF MAINE, FOR APPROVAL OF CERTAIN FISHWAYS IN THE SAINT CROIX RIVER.

Statement in response on behalf of Canadian Cottons, Limited, F. H. Todd & Sons, and Maritime Electric Company, Limited.

To the honorable the INTERNATIONAL JOINT COMMISSION,

*Ottawa, Canada, and Washington, D. C.*

1. Canadian Cottons, Limited, submits that it is a Canadian corporation owning and operating a cotton mill situate at Milltown, in the Province of New Brunswick, which said cotton mill is operated by water power derived from the Saint Croix River, and in conjunction with said water power it owns a dam erected across said Saint Croix River from Milltown, in the Province of New Brunswick, to Calais, in the State of Maine.

2. F. H. Todd & Sons and Maritime Electric Company, Limited, submit that F. H. Todd & Sons is the owner of a dam erected across the Saint Croix River from Milltown, in the Province of New Brunswick, to Calais, in the State of Maine; that said dam is now leased to the Maritime Trust Corporation, a corporation having its Head Office at Halifax, in the Province of Nova Scotia, and that said dam is now occupied and used by the Maritime Electric Company, Limited, in connection with the power plant which supplies the towns of Saint Stephens and Milltown, in the Province of New Brunswick, and the city of Calais, in the State of Maine, with electric light, and also power to manufacturing plants and others doing business in the said towns and city. That at the present time said dam does not extend to the shore on the State of Maine side of said river a portion of said dam on the State of Maine side having been carried away during a freshet in April last and has not since been replaced.

3. Your respondents submit that your Honorable Body should not approve of the plans for the construction of fishways in the two dams above mentioned, as filed with your Honorable Body by Willis E. Parsons, Commissioner of Inland Fisheries and Game for the State of Maine for the following reasons, namely:

(a) That migratory fish do not attempt passage up the Saint Croix River at the present time, or at least the number of such fish is

negligible and not sufficient in quantity or value to warrant, justify, or compel the expenditure which would be necessary if fishways were ordered to be erected in said two hereinbefore mentioned dams.

(b) That the erection of said fishways in said dams would not be of benefit to the Inland Fisheries of the State of Maine, or of the Dominion of Canada, or increase the passage of migratory fish in the River Saint Croix at this location by reason of the fact that there are no spawning grounds for migratory fish below the dam at Grand Falls, in the said Saint Croix River, and that migratory fish at the present time are unable to pass the dam across the Saint Croix River at Woodland, in the State of Maine, owing to the height of said dam, and if migratory fish were able to pass over the fishway in said dam at Woodland, Maine, they would be unable to reach the spawning grounds above Grand Falls by reason of the fact that there is no fishway in the dam at said Grand Falls.

(c) That below said dam at Woodland and above the dam of the Canadian Cottons, Limited, two streams enter said Saint Croix River, one on the Canadian side and one on the State of Maine side, neither of which streams furnish suitable spawning grounds for migratory fish.

All of which is respectfully submitted without prejudice to the rights and interests of your respondents.

Dated this twenty-fifth day of July, A. D. 1923.

N. MARKS MILLS,  
*Solicitor for Respondents.*

Office: St. Stephen, N. B., Canada.

## INTERNATIONAL JOINT COMMISSION.

HEARINGS IN RE APPLICATION OF WILLIS E. PARSONS, COMMISSIONER  
OF INLAND FISHERIES AND GAME FOR THE STATE OF MAINE, FOR  
APPROVAL OF CERTAIN FISHWAYS IN THE SAINT CROIX RIVER.

SAINT ANDREWS, CANADA,  
*Friday, August 3, 1923.*

The International Joint Commission met, pursuant to notice, at Saint Andrews, N. B., at 10 o'clock a. m., August 3, 1923.

Present: Charles A. Magrath (presiding), Clarence D. Clark, Henry A. Powell, K. C., Marcus A. Smith, Sir William Hearst, K. C. M. G., Charles E. Townsend. Lawrence J. Burpee and William H. Smith, secretaries.

Mr. MAGRATH. Gentlemen, a telegram has been received within the last few minutes to the effect that the President of the United States has passed away. We will proceed with the work which called the Commission here, pending confirmation of that report.

It is needless to say that we all sincerely hope that the news is incorrect. President Harding was a great man and as President of the United States carried heavier responsibilities than any other man in the world. He was a good friend of our Commission and took a keen interest in its work.

The business which calls the Commission here is an application from Mr. Willis E. Parsons, Commissioner of Inland Fisheries and Game for the State of Maine. That application has reference to the installation of certain fishways and dams in the Saint Croix River in this immediate neighborhood.

I will now ask those who are present to announce their names and the interests they represent.

### APPEARANCES

Charles M. Barnes, Assistant Solicitor, Department of State, Washington, D. C.

William J. Stewart, Chief Hydrographer for the Dominion of Canada, and Consulting Engineer for the Department of Internal Affairs.

John F. Calder, Inspector of Fisheries, Department of Marine and Fisheries of Canada.

Ransford W. Shaw, Augusta, Maine, Attorney General, State of Maine.

Willis E. Parsons, Augusta, Maine, Commissioner of Inland Fisheries and Game for the State of Maine.

N. Mark Mills, K. C., and Harold H. Murchie, St. Stephen, N. B., representing Canadian Cottons, Limited, F. H. Todd & Sons, and Maritime Electric Company, Limited.

Mr. MAGRATH. The Secretary will now read the application.

Secretary BURPEE. This application is addressed to the International Joint Commission and reads as follows:

TO THE INTERNATIONAL JOINT COMMISSION,

*Washington, D. C.*

HONORABLE SIRs: The undersigned, Willis E. Parsons, Commissioner of Inland Fisheries and Game for the State of Maine, would respectfully represent that as such Commissioner he has jurisdiction over the construction and maintenance of all fishways in the rivers and streams of said State.

That the St. Croix River on the easterly border of said State is a part of the International boundary between said State of Maine and New Brunswick, a Province of the Dominion of Canada, and that fishways permitting the passage of migratory fish have been constructed on the dams on said river and maintained for more than a generation, or since 1867, and that the two lower fishways, to wit, the one which existed at the first dam or tide water now owned or occupied by the St. Croix Gas Light Company, and the second dam owned by the Canadian Cottons, Limited, have fallen into decay and become useless, in fact, wholly obliterated, so that it now becomes necessary to construct a new fishway at each of said dams.

And further, that the said State of Maine through its said Commissioner and the Canadian Government at Ottawa by its legal representative have approved plans for the construction of such fishways and are ready to proceed with such construction on the assumption that the amount of water used for a fishway is negligible and not a material "diversion" of boundary waters on the other side of the line, as contemplated in Article III of the Treaty between the United States of America and His Majesty, the King of the United Kingdom of Great Britain, dated the 11th day of January, 1909, or if it should be found to be a technical diversion, that it would be a "diversion heretofore permitted," as referred to in said Article III and not "further or other use" as would be affected by said treaty.

If, however, your Honorable Body shall find and determine that new construction of said fishways, or the repairs of any of the said fishways on said dams above referred to on said international waters of however long standing, which repairs are necessary frequently on short notice, is under the jurisdiction of your Honorable Commission.

Application is hereby made to said International Joint Commission to grant consent and authority to all dam owners on said St. Croix River, to wit, International boundary, to erect such fishways as may be approved by said Commissioner for Maine and the legal representative of the Canadian Government as aforesaid, granting your consent and approval to such construction of new fishways and future repairs of existing fishways, as may be approved as aforesaid by the State of Maine and the Canadian Government by their legal representatives as aforesaid and in accordance with plans jointly approved by them.

And to do, make and perform such other acts and decrees by your Honorable Joint Commission as shall enable the said Commissioner of Maine and



Legal representatives of said Canadian Government in case of emergency, or otherwise, from time to time, as it may become necessary, on proper notice to dam owners as provided by the laws of Maine and of Canada, to direct and require of any or all of said dam owners on said St. Croix River such construction or repairs on any fishway for their respective dams as in the judgment of said Maine and Canadian officials may be deemed necessary for the proper passage of migratory fish, as contemplated by the laws of the Canadian Government and of the State of Maine, such authority being for the mutual advantage and benefit of both countries, the Dominion of Canada and the State of Maine, as an integral part of the United States of America.

Dated May 24, 1923.

(Signed) WILLIS E. PARSONS,  
*Commissioner of Inland Fisheries and Game,  
for the State of Maine.*

This application was transmitted to the Commission by the Department of State of the United States with the following letter:

THE INTERNATIONAL JOINT COMMISSION OF THE  
UNITED STATES AND CANADA,  
*Washington, D. C.*

GENTLEMEN: I have the honor to transmit herewith, for appropriate action by the International Joint Commission in joint session, one original and fifty copies of an application signed by Mr. Willis E. Parsons, Commissioner of Inland Fisheries and Game for the State of Maine, relating to the proposed construction, under the direction of Canada and the State of Maine, of two fishways to provide for the passage of migratory fish in the St. Croix River, a part of the International boundary line between the State of Maine and the Province of New Brunswick.

It is stated in the application that the Governments of Canada and Maine have approved plans for the construction of two fishways on dams owned by the St. Croix Gas Light Company and the Canadian Cottons, Limited, to replace fishways that have become useless from decay, and that they are ready to proceed with the construction on the assumption that the amount of water used for a fishway is not such a material diversion of boundary waters on the other side of the international boundary as is contemplated by Article III of the treaty concluded between the United States and Great Britain on January 11, 1909, or if it should be regarded as a technical diversion that it is a diversion permitted before the treaty was concluded, which does not require the approval of the International Joint Commission.

It is requested, however, that if the International Joint Commission should regard the proposed construction as coming within its jurisdiction, authority be granted to all owners of dams on the St. Croix River to construct such new fishways and make such repairs to existing fishways as may be approved by the Commissioner of Inland Fisheries and Game for the State of Maine and the legal representatives of the Canadian Government in accordance with plans approved by them jointly, and to authorize the Commissioner of Inland Fisheries and Game for the State of Maine and the legal representative of the Government of Canada, in cases of emergency or otherwise, to require of all owners of dams on the St. Croix River such construction and repair of fishways as may be considered necessary by the authorized officials of Canada and Maine to provide for the proper passage of migratory fish.

I have the honor to be, Gentlemen, your obedient servant,

(Signed) WILLIAM PHILLIPS,  
*Acting Secretary.*

There is another communication from Mr. Phillips reading as follows:

DEPARTMENT OF STATE,  
Washington, June 18, 1923.

The Honorable CHARLES E. TOWNSEND,  
*Acting Chairman of the United States Section  
International Joint Commission of the  
United States and Canada, Washington, D. C.*

SIR: I have the honor to transmit herewith for presentation to the International Joint Commission, in joint session, a letter addressed to the Commission transmitting for appropriate action an original and 50 copies of an application signed by Mr. Willis E. Parsons, Commissioner of Inland Fisheries and Game for the State of Maine, relating to the proposed construction under the direction of Canada and the State of Maine of fishways in the St. Croix River, a part of the international boundary between Maine and the Province of New Brunswick.

The department is informed that it is desired to proceed with the construction of the fishways this season and that it will be appreciated if the consideration of the application can be expedited.

I have the honor to be, Sir, Your obedient servant,

(Signed) WILLIAM PHILLIPS,  
*Acting Secretary.*

A statement in response has been filed by the Canadian Cottons Limited, F. H. Todd & Sons, and Maritime Electric Company, Limited.

MR. MAGRATH. Have you had an opportunity to read that reply, Mr. Parsons?

MR. PARSONS. I have, your honor.

MR. MAGRATH. Have you, Mr. Shaw?

MR. SHAW. I have, sir.

Secretary BURPEE. The following notice of public hearing to be held before the International Joint Commission on August 3, 1923, at St. Andrews, N. B., in connection with the said application was published in the Calais Advertiser, the Canada Gazette, and the St. Stephen Courier:

#### ST. CROIX RIVER FISHWAYS

Application of Commissioner of Inland Fisheries and Game of the State of Maine for approval of certain fishways in the St. Croix River.

Notice is hereby given that there has been transmitted to and filed with the International Joint Commission by the Government of the United States the application of the Commissioner of Inland Fisheries and Game for the State of Maine for approval of certain fishways in the St. Croix River, the said river being boundary waters within the meaning of the Treaty between the United States and Great Britain of January 11, 1909. By order of the Commission suspending certain of its rules, all statements in response to said application must be filed on or before July 30, 1923. A public hearing on the above mentioned application will be held in the Algonquin Hotel, in the town

of St. Andrews, New Brunswick, on Friday, August 3, 1923, at 10 o'clock a. m., at which all parties interested are entitled to be heard.

Copies of the notice were sent to the following:

The Secretary of State.

The Secretary of War.

Chief of Engineers, United States Army.

Maj. G. R. Young, Corps of Engineers, United States Army.

Secretary, Federal Power Commission.

Hon. Willis E. Parsons, Augusta, Me.

Hon. Frederick Hale, Portland, Me.

Hon. Ira G. Hersey, Houlton, Me.

Hon. Ransford W. Shaw, Attorney General, Augusta, Me.

The Hon. The Governor of Maine.

The Undersecretary of State for External Affairs of Canada.

W. J. Stewart, Chief Hydrographer of Canada.

John F. Calder, Inspector of Fisheries, Department of Marine and Fisheries of Canada.

Hon. Walter E. Foster, Premier of New Brunswick.

Hon. Peter Venoit, Minister of Public Works of Canada.

Hon. C. W. Robinson, Minister of Lands and Mines of New Brunswick.

The Manager of Canadian Cottons, Limited, St. Stephen, New Brunswick.

The Manager of the St. Croix Gas Light Company.

Mr. MAGRATH. You state in your application, Mr. Parsons, that an agreement has been entered into between the Government of Canada and your State in reference to these fishways being installed. Will you state more fully what that agreement is.

Mr. PARSONS. Mr. Chairman, the Attorney General, Mr. Shaw, who represents the State of Maine, has asked me to make a general statement of our position, and perhaps a brief history of what has transpired up to the present time.

I would say that fishways were established in the St. Croix River in 1867, or about that time. We have plans in our office at Augusta showing fishways that were established in 1867, and, as I understand it, there have been fishways in existence from fifty-five to sixty years in the St. Croix River.

When I was appointed Commissioner about five years ago, I found that there were some defective fishways in the St. Croix; that the two lower fishways needed repairs, and, finally, a few years ago—perhaps four years ago—the two lower ones were taken out. They should have been repaired or new ones built.

Mr. MAGRATH. At what dams are those lower ones?

Mr. PARSONS. One is at the dam now controlled by the St. Croix Gas Light Company and one is at the Canadian Cottons, the second dam above.

The former Commissioner of the Bureau of Fisheries, as well as the present Commissioner, are anxious to have fishways in our Maine waters which will permit the Atlantic salmon to spawn in those waters. So I gave attention not only to the fishways in the State of Maine but those upon the boundary. I found that the mill owners were all gentlemen, of course, but feeling like everybody else they did not want to spend any money unless they thought it was reasonable or there were going to be reasonable returns for such expenditures, or that the condition was such that the river should really be opened up.

I took the matter up with the authorities at Ottawa and also consulted the people interested here in New Brunswick. I found that their policy was the same as that of our own Government; that they were for encouragement of fishways and bringing back the Atlantic salmon on our coast. The plans were approved by Mr. Friend, I think, the assistant inspector.

Mr. CLARK. You say, "We finally agreed upon plans." You have mentioned three parties. Now, who had agreed upon these plans?

Mr. PARSONS. I have mentioned three parties, really. The Federal Government has nothing in particular to do with these fishways except in connection with the general policy. They turn over the fishways, the fishing and the game to the individual state.

Mr. CLARK. My question was directed to whether or not the corporations having control of these dams had entered into this agreement.

Mr. PARSONS. Nothing but a verbal agreement, as I understand it. I understand that Mr. Graham is perfectly willing to put in a fishway if it is shown feasible. That is all we ask for after looking the situation over.

But the question arose and the petition which I drafted sometime ago to present to this Commission shows our position.

Mr. POWELL. Excuse me. What is the significance of your term "feasible?" Does it mean practicable to put it in, or effective in its operation?

Mr. PARSONS. Effective in its operation. That is when it would be beneficial afterwards.

Now, in relation to that, I am informed by old residents that the Penobscot River, which is one of the old salmon rivers, is not as good a salmon river as the St. Croix; that the salmon pool, called Union Pool, right here at Calais, is a better one than the one at Bangor. Bangor is to-day building a fishway of their own volition.

Some people have come to me asking what kind of a fishway should be constructed and stating that it is going to cost them \$25,000. I do not believe that they would dispense with that pool there for \$100,000. People come and board at the hotels in Bangor and take up their residence there for summer fishing in that pool which has been brought back by the fishways erected there a few years ago.

Now, on the Piscataquis River we had no salmon a few years ago. About four years ago I required them to build a fishway on that river and we stocked the river with salmon fry. Now there are so many salmon in that river that they have had to stop fishing it and I have had to put a close time on one of the principal tributaries. Occasionally big salmon are also put in the river that work up to the recently constructed fishway.

At Dennysville, just below here, they had a salmon river, and four years ago I required them to put in a fishway there. They said that was not necessary; that it was calling for an unnecessary expenditure of money. But I insisted on a fishway, and for three years the salmon did not seem to find that fishway; they had been shut off so long that they began to abandon the river. Finally, they began to come back. They tell me that last year there was a fine run of salmon there. I put a warden on to watch the fishing. Five hundred salmon were counted going over in a few hours. They tell me that not less than 20,000 salmon went up that fishway last year.

MR. POWELL. What is the height of the ladder?

MR. PARSONS. The ladder there is only about eight or ten feet. It may be a little more than that. But I should say that would not be over a twelve-foot dam there.

MR. POWELL. What is the length of the base of the ladder?

MR. PARSONS. Well, the checks are only about six feet, and there are seven or eight of those checks.

MR. POWELL. That is about fifty feet?

MR. PARSONS. Yes. They found quite a good run there again this year, although we call this an off year for the running of salmon.

We took the position, first, as stated in the petition, that this was not really a matter for this Commission, but I prepared the petition to the Commission simply to relieve the position which the mill owners took—and it was perfectly fair on their part—that if they were to build fishways they wanted not only the government at Ottawa and the State of Maine authorities—as they have agreed—but they wanted to know what the International Joint Commission that had charge of all these waters would say.

Now, Article III of the treaty says: "It is agreed that, in addition to the uses, obstructions, and diversions heretofore permitted," etc. If it is a diversion, those uses heretofore permitted had been in

existence for sixty years. They had been in existence for nearly fifty years when this Commission was created. Would a law be retroactive that would now give the Commission authority to say that those fishways which have been in existence for fifty or sixty years before the Commission itself was created were within its jurisdiction? Or, is it a new use of the water? Then, if they have jurisdiction, is it such a matter as diverts water affecting the natural level or flow of boundary waters on the other side of the line? Is it a diversion of the water? Here is a natural obstruction, or rather an unnatural obstruction created by the mill owners.

Of course if a new dam were to be erected no one would think at this time of erecting any obstruction without the permission of this Commission. But is this an obstruction? It is not an additional obstruction to the dam. The dam is built. It is not obstructing the waters of the river. Does it divert the waters of the river? The quantity of water used for a fishway is negligible. It does not come within the jurisdiction of the Commission. The amount of water used for these plans which I have here is one cubic foot per second, an infinitesimal part of the water that is going through that river. It is not noticeable.

Does it divert the water? A fishway erected in a channel does not divert the water but draws just as much from one side as from the other.

But the position we take in relation to the diversion is this: Is it such an amount of water as shall so affect the flow on the other side as to constitute really a diversion?

Now, if the Commission has jurisdiction, or if they assume jurisdiction over a matter of this kind, over anything as trivial as a fishway, then we say that here is a matter that is liable to come up at any moment; that there are likely to be repairs to be made and there will be cases of unusual delay.

I want to thank this Commission for the promptness with which they have acted in relation to this matter. It has been just a short time ago that the Commission received that petition and yet we are here today holding a hearing regarding it. All commissions do not act as promptly as that.

Frequently we have repairs which have to be made immediately. It is an easy matter for the authorities of the State of Maine and the authorities at Ottawa to get together immediately. At Woodland thirty feet of that fishway were carried out by a freset. Mr. Park, the manager, said, "If you say so we will repair it immediately." It was way above these fishways. These two fishways are the key to the whole situation. It is unfair to ask them to maintain a fishway up here 320 feet long and make repairs at large expense if there are no fishways down below. But he said, "We will put that on

immediately," and I understand they are at work on it now. I have found all the men on the river gentlemanly and ready to comply.

Now, what might arise? Suppose he should say, "No; I am not going to do anything until these repairs are considered by the authorities at Ottawa in conjunction with ourselves"; and then when they get there they say, "No; we can not make any repairs until we know what the International Joint Commission says about this matter." You will have to go through all that procedure in order for us to make repairs which should be made within two or three weeks and, perhaps, when the water is low. If the Commission assumes authority here and says that the fishways are a diversion of the water; that fishways that have been in existence for sixty years are an additional use, then we ask the Commission to simply grant the necessary authority to these dam owners to build fishways and make in the future such repairs as shall be directed and approved by the joint authorities of the Canadian Government at Ottawa and the State of Maine.

Mr. TOWNSEND. Mr. Parsons, assuming that the Commission should find that it had authority over fishways, what have you to say to the response of the respondents that even if these fishways were put in repair there are still conditions below which would prevent their being used by the fish?

Mr. PARSONS. If your Honor please, that is just what I was coming to. I think that perhaps I have said enough to give the Commission an idea of just the position we take.

Mr. SHAW. I do not think you have made quite clear the extent of the negotiations you have had with the Province of New Brunswick. You have made reference to it in a general way, but I do not think you have made clear the extent of your negotiations.

Mr. PARSONS. I could state further that those negotiations covered about three years. We had the State of Maine engineers here looking the situation over. Mr. Bruce, the engineer for the government at Ottawa, and several other men representing the Canadian Government had been down here and we had agreed upon such plans as our engineer, Mr. Green, drafted. Those plans had been sent to Ottawa and met with their approval. That can not be disputed by the respondents. They understand it as we do. Their approval was by correspondence, and I think there was one set of plans approved by Mr. Friend, the assistant inspector.

Mr. MAGRATH. These plans that you are referring to are on record in the Department of Marine and Fisheries at Ottawa and are approved?

Mr. CALDER. The plans are approved.



Mr. MAGRATH. And the plans indicate that the maximum amount of water to be carried through these fishways will not exceed a cubic foot per second?

Mr. PARSONS. In that neighborhood.

Mr. POWELL. Have you a copy of the plans?

Mr. PARSONS. I have a copy of the plans here.

Mr. POWELL. Mr. Burpee, did the Province of New Brunswick have notice of this application?

Mr. BURPEE. Yes, sir; and also the Dominion of Canada.

Mr. SMITH. You speak frequently of diversion of water for a fishway. I can not conceive of a fishway taking the water from the flow of a stream. There is no diversion in making these fishways, is there?

Mr. PARSONS. That is our contention.

Mr. SMITH. I mean no practical diversion.

Mr. PARSONS. No practical diversion. It is not a diversion that would bring it within the jurisdiction of the Commission.

Mr. CLARK. Well, is there any diversion?

Mr. PARSONS. If built in the channel there could be no diversion, but if built clear to the extreme side it would not be noticeable.

The answer, omitting the formal description here, states:

Your respondents submit that your Honorable Body should not approve of the plans for the construction of fishways in the two dams above mentioned, as filed with your Honorable Body by Willis E. Parsons, Commissioner of Inland Fisheries and Game for the State of Maine for the following reasons, namely:

(a) That migratory fish do not attempt passage up the Saint Croix River at the present time, or at least the number of said fish is negligible and not sufficient in quantity or value to warrant, justify, or compel the expenditure which would be necessary if fishways were ordered to be erected in said two hereinbefore mentioned dams.

Now, we say that it is not within the mouth of a dam owner, after he has created an obstruction in a river frequented by migratory fish and has driven them away, to say that there are no fish here that want to go by. You have obstructed the water. The fish want to go by. We know that last year about 20,000 went up that fishway, but it took them three years to get back.

Mr. CLARK. When these dams were first constructed did they provide fishways?

Mr. PARSONS. Down there?

Mr. CLARK. I refer to these dams that are now in controversy.

Mr. PARSONS. They had fishways up to within about four years ago. Some of them would be out of repair. They were not kept up as they should have been and the fish kept dropping off gradually and, finally, the fishways were taken out.

Mr. CLARK. But as originally constructed there were fishways provided, were there, as part of the structure or in connection with the structure?

Mr. PARSONS. Some of them were constructed. This dam at the Canadian Cottons, Limited, has a gateway prepared for the fishway, but the fishway was never built.

Mr. CLARK. There never was a fishway there?

Mr. PARSONS. Never in this new dam.

Mr. CLARK. When was that dam built?

Mr. PARSONS. In 1919 or 1920.

Mr. MILLS. The dam is simply the repairing of the old original dam?

Mr. CLARK. But in repairing the old original dam you left out the fishway.

Mr. MILLS. Yes.

Mr. PARSONS. Was there a gate left in the fishway?

Mr. MILLS. Yes.

Mr. POWELL. There is no other means at the present time by which the fish can get up at all?

Mr. SHAW. Ample means. I think we can explain that later.

Mr. PARSONS. In paragraph (b) the respondents state:

That the erection of said fishways in said dams would not be of benefit to the inland fisheries of the State of Maine, or of the Dominion of Canada, or increase the passage of migratory fish in the River Saint Croix at this location, by reason of the fact that there are no spawning grounds for migratory fish below the dam at Grand Falls, in the said Saint Croix River, and that migratory fish at the present time are unable to pass the dam across the Saint Croix River at Woodland, in the State of Maine, owing to the height of said dam, and if migratory fish were able to pass over the fishway in said dam at Woodland, Maine, they would be unable to reach the spawning grounds above Grand Falls by reason of the fact that there is no fishway in the dam at said Grand Falls.

Now, all of that we dispute. If the Commission should find that it has jurisdiction and wants to go into the question of whether or not the fishway would be feasible, we claim that the salmon use the fishway at Woodland.

Mr. POWELL. We had before the Commission the question of the diversion of water through the power canal at Woodland, and I remember distinctly, for I wrote the opinion myself, that it was understood at the time that in connection with the dam there was to be a fishway which was only partially completed, and there was an implied undertaking on the part of those who would be beneficiaries by the construction of the dam that that fishway would be put in. Has it been put in?

Mr. PARSONS. Yes. That is the one that is going to be repaired.

Mr. POWELL. I remember also that the dam at Woodland is high.

Mr. PARSONS. Yes.

Mr. POWELL. It is about how many feet?

Mr. PARSONS. Forty-eight feet.

Mr. POWELL. The dam at Grand Falls is a low dam?

Mr. PARSONS. It is a high dam. It must be forty-eight or fifty-two feet.

Mr. POWELL. Is there not a considerable down grade between the base of the dam at Grand Falls and Woodland?

Mr. PARSONS. Yes. I have not made any measurements there myself, and I do not know that our engineer has, but I think he has investigated very carefully, and I presume that Mr. Graham would be able to give the information.

Mr. POWELL. Has anybody a profile plan of the river here?

Mr. CALDER. I have, sir. It was furnished some years ago.

Mr. POWELL. Yes; I have seen one other like this before. That would cut down the fishway there at Grand Falls to about thirty feet.

Mr. PARSONS. Now, under paragraph (b) their contention is that there are no spawning grounds above. First, they say that the fishway at Woodland is not sufficient and that the fish do not pass over it.

Mr. POWELL. But did the fish pass over it?

Mr. PARSONS. They did. I have here an expert, an inspector of fisheries in the State of Maine, who himself has seen salmon in the fishway. They would not be there if they did not get over.

Mr. POWELL. They might get tired before they got to the top.

Mr. PARSONS. The salmon on the Atlantic coast are pretty able fish and it takes a good deal to tire them out. We call that fishway practicable.

There are not a great many witnesses here, but I have talked with the former manager at Woodland, Mr. Smith; I have talked with the foremen around the mill; and they all tell me that they have seen them there; that they were using the fishway at Woodland.

Suppose we should agree with them that the dyestuff at Woodland would so injure the water that there would not be any spawning ground at Woodland? What is above Woodland? As the river ran there were thirteen to fourteen miles above, but call it ten or twelve miles of quick water.

I have witnesses here. The general superintendent of fisheries is here ready to testify; a warden who has been observing fish culture and who has had fifteen years experience himself; a fish in-

spector who has been for thirty or more years observing the habits of fish, a man upon whom we call when a plan does not quite succeed to go down and rearrange things so that the fish will get by. They were up there with me yesterday. Mr. Perkins, the general inspector, especially, had looked that situation all over. There are no more natural spawning grounds anywhere on the Maine coast than between Woodland and the dam at Grand Falls. But there are five miles of quick water before we get to the dead water, a swift current with gravel and ledge bottom.

I talked with people last night who had fished the waters for forty years. There is one stream coming in from the Calais side which furnishes good spawning ground for six miles before it meets any obstruction there.

Mr. POWELL. Where is the confluence with the St. Croix?

Mr. PARSONS. It empties into the St. Croix.

Mr. POWELL. Below the mills?

Mr. PARSONS. Below the mills. But these salmon will come up.

They have pulp and paper mills on the Penobscot, and if the fish can not get by they will hang for two or three weeks in that dyestuff until they get a chance to go by.

On the Canadian side of the St. Croix there is a brook, the

Mohannes, I think they call it. We crossed that brook in two places.

There are fine spawning grounds there, quick water and shallow

water. Then we came back and took the other road at Grand Falls

and found the same condition there. I talked with men who had

fished it for forty years. They say it comes out of ponds up there.

They say they have caught salmon and big trout in those waters.

Mr. POWELL. Does it enter the St. Croix above the dams in ques-

tion?

Mr. PARSONS. Those two brooks enter below the mills at Wood-

land.

Now, in relation to their using that for spawning grounds. The

testimony may be here to-day, I can not say about that, but they

never did use these places down here. Salmon go as far as they can

get, back to the headwaters. But suppose they can not get back

to the headwaters, what do they do then? They go above tide-water

and get into fresh water to spawn. They spawn in the nearest and

most convenient spawning ground. If the same thing occurs an-

other year they take that same place. We have one lake in Cum-

berland County, in the State of Maine. A great many people fish

that lake. We stock it. We find a great many of these salmon

coming back to the same place where they are planting. There are

no large streams running in there and the fish take the ledges and

the gravel bottoms of those ledges and spawn. There will be large areas covered with those salmon right in the lake.

Mr. POWELL. They will not spawn on mud bottoms?

Mr. PARSONS. No; but in gravel and sand. You do not find any mud bottoms in quick water. Below that dam there are five miles of it, good spawning ground.

Mr. SMITH. Do the commercial enterprises have such an effect on the pollution of the waters there that it would prevent the salmon coming in anyhow?

Mr. PARSONS. I think not. They might to some extent, but that has not been the result in Penobscot waters. That river is lined with pulp mills and other mills with dyestuff and materials that you might think would drive the salmon out entirely.

Mr. SMITH. My observation has been that fish coming from the sea or from the salt water are extremely sensitive to pollution, and if you do not keep the waters pretty clear they will not try to come up.

Mr. PARSONS. That is a general fear.

Mr. SMITH. It is a fact.

Mr. PARSONS. That has some effect. In the Kennebec River they have mills frequented by salmon. In the Penobscot River, as I say, they come up there, and they are putting out \$25,000 this year to preserve that pool because they had come and they want them to continue to come.

I talked with the engineer at Lewiston day before yesterday and he said, "I counted there this summer by the wheel pit seventy-five big salmon, and one had a big piece torn off his back where the wheel had hit him." So the salmon do take these waters, and this river can not be any worse than the Penobscot. At Lincoln and at Waverly the fish are passing through continually.

Now, in relation to the expense. The people in Maine are putting out something to help fishing. They have built screens. There is a screen at Grand Lake that cost \$10,500. They built a screen at Sebago that cost \$2,700. They are building fishways that cost \$20,000 or \$40,000. The first thing they ask now is, what kind of a fishway I want. I do not have to go after them or urge them to do it. Here is a slight expenditure. Instead of costing \$25,000 it will cost, as our engineer estimated, around \$5,000. I do not think their engineer's estimate would vary a great deal from that. That is a very small expenditure where parties have put out several million dollars. It is almost trivial.

Mr. MILLS. Which one is that, the Canadian Cottons?

Mr. PARSONS. The Canadian Cottons. The expense is so slight that I do not think the mill owners raise that as a real objection.

The question for the Commission to decide is whether fishways are needed.

Mr. TOWNSEND. Have you anything on record which shows what provisions were entered into when these fishways were put in these original dams in 1867?

Mr. PARSONS. I have not. They may be in the office but I did not look for that particularly. Having been established, that question did not occur to me, except to get the date. I was looking for the date and about how long they had been in existence. I found the plans there for the St. Croix River that were adopted in 1867, and the record shows that they were built and have existed on the river in one way or another. Some of them would go to pieces and would have to be repaired and there would be more or less obstruction until finally the salmon had left.

Mr. SMITH. Briefly, what is the history of the salmon in the St. Croix?

Mr. PARSONS. Years ago it was one of the very best salmon rivers on the Atlantic coast. All agreed that it was far better than the Penobscot.

Mr. CLARK. What cause has contributed most largely to the present condition?

Mr. PARSONS. I think the neglect of the fishways. If one fishway is out of repair, it breaks the whole chain.

Mr. CLARK. Just what fishways do you think have broken the chain, the cotton mills fishways that you speak of? I understand they have only been out about four or five years. When did the salmon practically quit running? Have you any data as to that?

Mr. PARSONS. It has been but a few years and they have not quit running yet.

Mr. CLARK. I mean to such an extent as to be appreciable.

Mr. PARSONS. We went yesterday to the dam at Grand Falls and talked to the men there. They said, "There are salmon in here now. They got four this season."

Mr. MILLS. That is this year?

Mr. PARSONS. This year. They have not stopped running in the St. Croix River. They are waiting for these fishways.

Mr. CLARK. I understand there are not what you call a run of salmon in the river now.

Mr. PARSONS. That is correct.

Mr. CLARK. What I am trying to get at is how long has it been since the salmon quit running, as we speak of salmon running up a river?

Mr. PARSONS. It has been quite a number of years. It has been gradually lessening.

Mr. SMITH. On account of obstructions?

Mr. PARSONS. On account of obstructions, yes.

Mr. CLARK. Did the salmon quit running before these fishways fell into disuse?

Mr. PARSONS. I think not.

Mr. CLARK. And yet my impression is that the fishway at whatever this place is where the Canadian Cottons is located has only been out of commission about four or five years. Is that true?

Mr. PARSONS. I think that is right.

Mr. CLARK. Then, the absence of that fishway did not contribute very materially to the lessening of the running of the salmon, did it?

Mr. PARSONS. Not very. Now, the dam at Woodland was some time under construction. While that was being built there would be an obstruction there that would last probably a couple of years. At Grand Falls there was the same condition. Wherever they are building a dam the fish can not get through. But when we have dams established on a river they are there and they are going to remain there and when we can get good fishways that are looked after the fish begin to come back. There is no doubt about it. That has been proven here in the State of Maine.

Mr. CLARK. Would the fish come back after an absence of two or three years?

Mr. PARSONS. Down at Dennis River there had not been any fish for years and years. That used to be a good salmon river. Some of the citizens asked me to open that up. I had a fishway put in there and twenty thousand went through this last year. I, myself, stood there this year when Herbert Allen came down, and while we were examining this fishway I caught a sea salmon that weighed 21½ pounds. They are catching good fish there. That is the result of putting in a fishway where they had absolutely abandoned it.

In relation to this spawning ground. They said they would never spawn again. Here is a photograph. The fish that were in Dennis River were like that, weighing 21½ pounds. That is a fish taken this year, and that is the kind of fish that were going through Dennis River. They were not fish that were planted there; they were natural sea salmon that found that place again after that obstruction.

Mr. CLARK. Where do you think those fish in the Dennis River came from?

Mr. PARSONS. That is right near the Atlantic seaboard.

Mr. CLARK. I am not a fisherman, but I am told—and it is especially true of the Pacific coast—that salmon seek their native streams and are very loathe to trespass on new ground when they come back to spawn. Now, what I am trying to get at is, whether or not this great run of fish were fish native to that stream.



Mr. PARSONS. All up and down the coast of Maine they have built dams. The native fish, the fish that have been running up those streams, are blocked out. So they seek all along the shore to find new spawning ground, making for fresh water along this coast. That is why they found the one in there at Dennis.

In relation to that, they might say that never having used that it would be a long time before they use it again. The Piscataquis River had not been used by salmon for fifty years. Old residents tell me it was a good spawning ground years ago. We opened it up to get the salmon back. We commenced to plant and the Government was very liberal in the Federal hatcheries. We planted a half million in that river within three or four years. They have been down to the sea and are going back to spawn. The river is full of salmon.

Mr. CLARK. That answers my question. In order to get them back into the river you plant them in that river?

Mr. PARSONS. Yes. But in the Piscataquis River we found large sea salmon. There were seven at one time this last season at the mouth of the river. One man said they were four or five feet long. They were trying to get back. The old salmon have found that, as at Dennis River. Those were big sea salmon. The big sea salmon have found that river. They are coming back in the Penobscot and in the Piscataquis.

In addition, it is the policy of the State of Maine to draw those salmon back by planting fry whenever you want them to spawn. Feed that river with fry spawn and in three or four years they will go down and come back to spawn. All admit that they come back to the same place where planted, to spawn. I have not the slightest doubt that I created there one of the finest pools along the Atlantic coast.

Mr. TOWNSEND. I want to ask you a question with reference to another branch of this subject. You are supposed to build new fishways at some of these dams. Do those new fishways have any different effect upon the obstruction and diversion of the water from what the old ones do?

Mr. PARSONS. I do not understand so. That is, they do not require any more water and I doubt if they require as much, but the one at the Canadian Cottons is placed with the consent and approval of the manager, Mr. Graham, and, as he has already stated to the Commission, he left a gate on the American side. It is simply a difference in the location of the dam.

Mr. TOWNSEND. But it has no effect in the way of increasing the diversion or producing an additional obstruction?

Mr. PARSONS. None at all; it is simply the same condition that has existed on these rivers for sixty years.

Mr. POWELL. There must be an explanation of one thing. You doubtless have it. If the lack of a ladder below or a fishway in the dam in respect to which the application is made has prevented salmon from going up there, how do the salmon get above to Woodland? How do they get up there if there is no fishway or ladder below?

Mr. PARSONS. They can not.

Mr. POWELL. But you say they do.

Mr. PARSONS. We had a freshet. Take it on the Penobscot. That dam went out with the freshet and they are putting in that new fishway at an expense of \$25,000 for the fishway alone.

Mr. POWELL. That would only apply to the space of time between the freshet this last spring and the present time. But last year, I understand you to say, the salmon got up above in some way.

Mr. PARSONS. I do not think there have been any salmon at Woodland since this fishway went out.

Mr. MILLS. Pardon me, Mr. Parsons. At the time you made the statement that fish had been seen here I asked you when, and you said this season.

Mr. PARSONS. Above the Woodland dam this season, and I presume they have been seen at Woodland this season.

Mr. POWELL. What would be the result of the planting?

Mr. PARSONS. The freshet, the high water. They were right up over this Bangor dam, which is a high dam.

Mr. CALDER. I think you stated some one had caught four salmon at Grand Falls this season.

Mr. PARSONS. Below Grand Falls.

Mr. CALDER. Were they fresh run salmon?

Mr. PARSONS. I did not see them. I think they stated that the new electrician taking the place there of one who was on vacation said that he caught four.

Mr. CALDER. You have no information that they were not fresh run fish in from the sea this year.

Mr. PARSONS. I have not.

Mr. CALDER. I may say that as a result of planting and perhaps owing to their inability to get to the sea, immature Atlantic salmon of about half growth are frequently caught around Grand Falls by fly fishers.

Mr. PARSONS. So that the river is frequented by migratory fish.

Mr. SMITH. What is the first obstruction of which you complain?

Mr. PARSONS. It is the St. Croix Light Co.'s dam which used to be called Union Dam, and which we call No. 1.

Mr. SMITH. What is the next obstruction of which you complain? How far up the river is it?

Mr. PARSONS. I think about 4 miles. It is the Canadian Cottons, Limited.

Mr. MILLS. It is about half a mile.

Mr. SMITH. That is, the first and second obstructions are about half a mile apart. How far is it from the second obstruction before you get to the point before the defense, which we will call it for lack of a better term, complained that the fish can not get above some place in the State of Maine to do their spawning? Where is that obstruction?

Mr. PARSONS. It is all in the State of Maine and the Province of New Brunswick. The next one would be about 8 miles from this bank up to Woodland.

Mr. SMITH. What is that obstruction of which they complain?

Mr. PARSONS. It is the fishway and dam at Woodland. They say that the fishway at Woodland is not practicable.

Mr. SMITH. How about that?

Mr. PARSONS. We claim that it is.

Mr. SMITH. Well, whether it is or not, they could never get to that unless fishways were provided in these two other obstructions?

Mr. PARSONS. And we are requiring them—and they are doing it willingly—to maintain a fishway three hundred feet long. Twenty feet has just gone and they are repairing it without any question whatever.

Mr. SMITH. You say the first obstruction is Dam No. 1; the second obstruction is Dam No. 3; and the third obstruction is that if you let fish up to it there is no spawning ground until they get over the last one. Do you say you have a good fishway in the one of which they complain?

Mr. PARSONS. Yes; and there are ample spawning grounds above.

Mr. SMITH. Is there any good spawning ground below the one of which they complain?

Mr. PARSONS. There are spawning grounds below Woodland.

Mr. SMITH. I will call it No. 3, then. There is spawning ground, then, between the place of which they complain and the obstruction of which you speak?

Mr. PARSONS. There are two. There is a brook with five or six miles on one side and a good many more miles on the other side that experts have examined and they say they are spawning grounds.

Mr. SMITH. That is all I want to know for my own satisfaction.

Mr. CLARK. Who owns Dam No. 3?

Mr. PARSONS. The St. Croix Paper Company.

Mr. POWELL. There are a great number of dams there.

Mr. PARSONS. There is another dam. That should be called No. 4. There is a dam that is called the old Murchie Dam. That is a natural fishway.

Mr. CLARK. Is that above No. 3?

Mr. PARSONS. That is No. 3 itself, I think.

Mr. CLARK. The dam you spoke of as No. 3 is at Woodland. Now, is there a dam between what we have heretofore spoken of as Dam No. 2, which is the dam of the Canadian Cottons, Limited, and Dam No. 3 at Woodland?

Mr. PARSONS. There is, but there is no trouble. So we are calling the one that is an obstruction No. 3.

Take, for instance, No. 3, the old Murchie. It is a natural fishway. There is simply a little swell of two or three feet and the salmon go right over it. Then they come to the No. 4 Dam, now controlled by Mr. Chase. They keep their fishway in good condition all the time and they are anxious that there should be fishways in the two lower dams. I omitted those when the question was asked simply because there was no trouble with them and we were calling this other one that they claim is an obstruction as No. 3.

Mr. CLARK. In your negotiations with the Canadian Government in regard to these proposed repairs, was the Canadian Cottons represented?

Mr. PARSONS. I should say so. I think they would so look at it. We went right to the mill and consulted and talked to Mr. Graham.

Mr. CLARK. Who is Mr. Graham?

Mr. PARSONS. Mr. Graham is the manager of the Canadian Cottons. There are three or four Canadian officials and the one that we relied upon the most for experience and knowledge was their engineer, Mr. Bruce. He is, I presume, their engineer to-day, but at that time he had had sixteen years experience with fishways in New Brunswick. They agreed upon what should be done.

Mr. CLARK. Did the Canadian Cottons at that time enter in any way into that agreement?

Mr. PARSONS. Into the agreement?

Mr. CLARK. Yes. Were they acquiescing in the conclusions?

Mr. PARSONS. There was no particular agreement except to agree upon the kind of plans.

Mr. CLARK. Did they acquiesce in those plans?

Mr. PARSONS. I think so.

Mr. MILLS. The Canadian Cottons took this position at that time and since, that when the Marine and Fisheries Department of

Canada required them to put in a fishway they were prepared to put it in. It has never yet been so required.

Mr. CLARK. But they did not acquiesce at that time?

Mr. MILLS. They have taken the position that if they were told to put in a fishway by the proper authorities they were prepared to put it in.

Mr. CLARK. My question is either misunderstood or the answer is evasive. I want to know whether or not the Canadian companies have acquiesced in the conclusions that were reached by the authorities of New Brunswick and the State of Maine?

Mr. MILLS. I think perhaps Mr. Parsons has overstated the situation between the State of Maine and the Dominion of Canada. As far as I can gather, there has been no agreement that fishways are necessary in these two particular places. The Marine and Fisheries Department of Canada simply say, "As fishways we approve of those plans."

Mr. CLARK. I have been laboring under a misapprehension. How about that, Mr. Parsons?

Mr. MAGRATH. We have the Canadian representative here and probably it would be well for him to make his statement after you are through, Mr. Parsons. Then, I understand you have witnesses here that you propose to call to support you in your statement that the allegations made by the Canadian Cottons are incorrect.

Mr. PARSONS. Yes, sir.

Mr. MAGRATH. Did you want to ask Mr. Parsons any questions, Mr. Mills?

Mr. MILLS. Not at the present time.

Mr. MAGRATH. Mr. Calder, you may proceed now.

Mr. CALDER. Mr. Chairman, I am here representing the fisheries branch of the Department of Marine and Fisheries, and I may say in connection with this whole matter that I have been an inspector of fisheries for district No. 1 of New Brunswick, which includes this territory, for sixteen or seventeen years.

The salmon fisheries on the St. Croix River were very decadent when I went into this work in 1907. The salmon fishery was very poor, and I remember that one of my first official missions was to go up to Woodland and inquire into the matter. I met Mr. Wyvell, who was superintendent at that time. He told me the dam at Woodland was completed early in 1906. That was in August or perhaps the first of September when the run of salmon came up the St. Croix River. He said below the dam he saw fish leaving in great numbers, perhaps thousands. He saw a very less number the next year, and a rapidly decreasing number in each of the succeeding years that he

was there. I have no information of any of them being seen there in recent years.

That dam is some forty-three feet in height with flash boards some feet higher than that. We have been unable to find any fishways that have been affected. That place has been supplied with rather elaborate fishways, sixteen feet in width and double tiers of boxes. I have heard of poachers taking salmon in the lower boxes but I have never had any positive information of salmon getting through the fishway. I do not say that they never did. I have never known of salmon getting through it.

At Grand Falls above there is another dam which has been built by the same company of approximately the same height and that is not supplied with a fishway.

I am not either as a representative of my department or in my personal capacity antagonistic to your department, Mr. Parsons, or to your efforts to have fishways installed. But I am here and the Commission has called upon me for my opinion.

The opinion of the department as I see it, I would say, is this: Mr. Parsons and I entered into correspondence some two years ago with regard to these matters and we held several conferences. As a result of all of them the Chief Commissioner of the Maritime Provinces and Mr. Parsons and myself met and after some exchange of notes and correspondence our engineer approved of the plans and approved of the location. He said, "If you are going to have fishways these things meet with my approval." The position of the department as I know it is that no practical purpose will be served by the erection of these fishways unless a fishway is erected in the Grand Falls dam above.

Now, without attempting to make a joke at all, there has been a question of the jurisdiction of the Commission. As a matter of fact, I wish you had jurisdiction over the diversion of fish, because my friend Mr. Parsons has entered into an agreement with the State of Maine authorities under which the St. Croix Pulp & Paper Company have assisted the State of Maine to the extent of some \$5,000 in the erection of a screen across the outlet from Grand Lake which enters into the St. Croix River.

Mr. POWELL. Above Grand Falls?

Mr. CALDER. Above Grand Falls. In consideration of the St. Croix Pulp & Paper Company paying some \$5,000 toward that, the State of Maine authorities have relieved the St. Croix Pulp & Paper Company from their obligation to install a fishway in the Grand Falls dam. That screen is erected for the purpose of keeping fish from going down into the St. Croix River.

Mr. POWELL. It is to prevent them from going out to sea and being lost?

Mr. CALDER. It is to prevent them from getting down into the St. Croix River. In all fairness I must submit that I consider that an unfair diversion of the fish. Perhaps that does not come within the scope of the Commission, but I might say that the position of our department is this: We see no useful purpose to be served in erecting these two fishways unless the whole river is opened up to the best of our ability to open it up. It is all very nice to talk about opening up spawning grounds for fish, but nature set apart spawning grounds in the head waters of the rivers. I do not know all the reasons, gentlemen, which brought that about, but, among other reasons, one would be this, perhaps: In the first place, on account of the purity of those streams there the parent fish can find pure water in which to bring forth and rear their young to a certain stage. There again the young are free from their natural enemies, the bigger fish. There again they are free from the pollution which cities and towns put into the water down below. Then, there is another very material factor. Take the run of ice in the spring of the year. You will see it around the shores with big boulders in it. The fish spawn in the fall of the year. If we could create, as we do an Indian reservation, a spawning ground at the mouth of a river, the ice run would nullify all our efforts.

Mr. Parsons spoke of restoring the rivers in the State of Maine. And I agree with him. You are doing it by artificial propagation; you are doing it with your hatcheries. We can not go back to things as they were in their primitive condition. The economic development of the age has demanded that the rivers be spanned by high dams. The commercial needs have brought that about. There is a new change. I say it as a fisheries officer regretfully, but I believe our natural spawning grounds, especially on the St. Croix River, are things of the past. We must look to artificial propagation. Take my district, the St. John district. We take in there on an average as high as fifty thousand salmon a year, worth forty thousand or fifty thousand dollars. With artificial propagation we can still keep up that supply, if we have enough efficient hatcheries, even if we have lost our natural spawning beds; but it is my opinion, and the opinion of the department, as far as I know, that when once rivers become spanned by dams of forty or more feet, as we have in these rivers, they cease to be inhabited by salmon. That has been my observation on the St. Croix River.

Mr. SMITH. We all know of fish hatching and going out to sea and eventually coming back, but there is no doubt that the obstruction in a stream would prevent any salmon going up, and if we



let that stand long enough we can argue that they will never go up any more at all.

Mr. CALDER. Yes.

Mr. SMITH. Therefore, the fish must go.

Mr. CALDER. Artificial propagation will keep up the supply in the sea.

Mr. SMITH. But the sea fish can keep up the supply if you give them a chance.

Mr. CALDER. They can not spawn in the sea.

Mr. SMITH. If you have open water, unobstructed, clear up to the original spawning ground?

Mr. CALDER. Provided you can open it up successfully.

Mr. SMITH. There is no use in doing it in any other way.

Mr. CALDER. Yes; and it must be done in a manner that would meet the ends. I said that our fishermen catch fifty thousand salmon in a year. The hatchery, say, at St. John, liberates five million fry. If ten per cent lived, that would be more than we take. We allow fishermen to take fifty thousand salmon a year. If one per cent that we plant in the streams lived we would preserve the equilibrium.

Mr. SMITH. If one in one hundred would mature the sea would be dried up.

Mr. CALDER. Yes, sir.

Sir WILLIAM HEARST. I understood you to say that in your view no good purpose would be served by putting fishways in the dams spoken of in these proceedings, unless fishways were put in at Woodland and Grand Falls.

Mr. CALDER. Yes. There is one at Woodland now. I would go further and say very little useful purpose would be served by doing that.

Sir WILLIAM HEARST. That is the point that I wanted to get clear. As I understand your view, it is not practical to put in efficient fishways at dams so high as those at Woodland and Grand Falls.

Mr. CALDER. Yes, sir; such has been the experience of the department and it has been my own experience as well.

Mr. POWELL. The bed of the river is not dry below Grand Falls and between there and Woodland, is it.

Mr. CALDER. It is not altogether dry. It may have been at times. I have never seen the time when there was not water going over the top of the dam.

Mr. POWELL. What is the natural fall at Grand Falls?

Mr. CALDER. I do not understand you.

Mr. POWELL. What is the natural fall of the river?

Mr. CALDER. I never investigated the river until the dam was built.

Mr. POWELL. What is the height of the dam at Grand Falls?

Mr. CALDER. About the same as at Woodland, forty three feet.

Mr. POWELL. It must be a good deal lower than that.

Mr. CALDER. Yes; it must be thirty feet, allowing for the elevation of the river.

Mr. SMITH. Do I understand you to say that from your experience and the observation of your department you think it is impossible or impracticable to make a fishway in a dam forty feet high?

Mr. CALDER. We have not found any effective fishways in dams of that height. I have had experience in other rivers which do not have fishways. The Little Pokologan, unobstructed, has a splendid run of salmon every year. We have had experience in this river with its dams until the run has practically ceased.

Mr. CLARK. What is the difficulty in the way of constructing a fishway forty feet high. I mean the mechanical difficulty. Where does the difficulty lie, in the lack of sufficient funds or in the condition of the water?

Mr. CALDER. In the condition of the water. It is the viewpoint of efficiency. We never found a fishway that served its purpose in a dam like that. Take the Woodland Dam as a criterion.

Mr. POWELL. Mr. Calder, you say that the dam is about the same height. I remember distinctly that an appropriation of over a million dollars was made for a power canal between Grand Falls and Woodland in order to get a higher head. That million dollars must have been expended with some result, and I know it was.

Mr. CALDER. I think you have the heights right there in that profile.

Mr. POWELL. I am going to ask you one question just for my own information. At Woodland, what I may call the base of your ladder would be very limited in length, would it not?

Mr. CALDER. Yes; surely.

Mr. POWELL. Now, the great trouble, as I understand it, is the rapid water and the circuitous courses that the fish pursue in getting up.

Mr. CALDER. It is the rapidity of the water which comes down the long sluiceway.

Mr. POWELL. And fish are possessed with a mad instinct to get to the spawning ground.

Mr. CALDER. Yes, sir.

Mr. POWELL. In the Fraser River they rush to their death.

Mr. CALDER. Yes.

Mr. POWELL. Suppose that your first pool was made at the small or low fall, would not the instinct of the salmon cause them to leap that fall into the upper pool?

Mr. CALDER. That sounds very reasonable. It is hard to controvert, and I am not trying to do so; I am only trying to give you my experience.

Mr. POWELL. A fall of two or three feet is nothing for salmon. Salmon can jump eight feet.

Mr. SMITH. If you made your fishway long enough I can see no difficulty except where the fish would not one in fifty enter. They would come up above.

Mr. CALDER. While I am on my feet I would like to say this, and I think I should say it: If in your wisdom you decide first that you have the power to sanction or order the erection of these fishways, in the event of your doing that I wish you would go further and make an order with regard to the installation of a fishway at Grand Falls above.

Mr. CLARK. What is the purpose of that if the fish can not get up to Grand Falls?

Mr. CALDER. No great practical purpose would be served unless you devise a greater fishway than I have ever seen, but I would like to be consistent not only with regard to our Department but with regard to the corporation.

Mr. PARSONS. With the Commission's permission, I would like to ask Mr. Calder to make a little further explanation. You said, Mr. Calder, that you had seen fish in the lower box?

Mr. CALDER. No; the information that I obtained from Mr. Wyvell was that he had known them to be poached out of the lower box.

Mr. PARSONS. Have you examined the lower fishway?

Mr. CALDER. Yes.

Mr. PARSONS. Is that constructed under the general plan with each check opposite the other?

Mr. CALDER. Yes.

Mr. PARSONS. So that in every check there is a rest pool?

Mr. CALDER. Yes.

Mr. PARSONS. So that the salmon going into the first can rest there as long as they please and then by a leap of two feet go into another?

Mr. CALDER. Yes.

Mr. PARSONS. Do you think that an Atlantic salmon would get so tired that he could not leap two feet when he got to the top?

Mr. CALDER. I was not giving my opinion. My observation has been that they have not gone through.

Mr. PARSONS. You have spoken of the ice. I will ask you if there is not at the head of all these fishways bulkheads that protect the fishways from the ice.

Mr. CALDER. Yes.

Mr. PARSONS. So that the ice has nothing to do with the fishways?

Mr. CALDER. My point was this, that the ice would destroy the spawning bed in the river, not the fishways.

Mr. PARSONS. I see your point, Mr. Calder.

Mr. MAGRATH. Mr. Parsons, do you wish to call some witnesses?

Mr. PARSONS. Two or three witnesses who will be very brief. I will first call Mr. Perkins.

F. M. PERKINS, a witness produced on behalf of the petitioner, after being first duly sworn, was examined and testified as follows:

Mr. PARSONS. I will ask you, Mr. Perkins, where you reside.

Mr. PERKINS. Bradley, Maine.

Mr. PARSONS. I will ask you whether or not you are the acting fishway inspector for the State of Maine.

Mr. PERKINS. I am.

Mr. PARSONS. You were appointed by the commissioner?

Mr. PERKINS. Yes, sir.

Mr. PARSONS. How long has your experience been as fish and game warden of the State of Maine?

Mr. PERKINS. Thirty-four years.

Mr. PARSONS. How long have you given particular attention to fishways in the State of Maine?

Mr. PERKINS. During all my term of office.

Mr. PARSONS. For the last five years you acted as fishway inspector for the whole State?

Mr. PERKINS. Yes, sir.

Mr. PARSONS. I will ask you when your attention was first called to the St. Croix River?

Mr. PERKINS. When the dam was being constructed at Grand Falls.

Mr. PARSONS. And that was about 1910?

Mr. PERKINS. 1910 or 1914; I don't just remember.

Mr. PARSONS. Then what were your observations in relation to the salmon in the river?

Mr. PERKINS. There were a lot of salmon in the river at that time.

Mr. POWELL. Where in the river?

Mr. PERKINS. At Grand Falls.

Mr. POWELL. Below, or above, or both?

Mr. PERKINS. Both.

Mr. PARSONS. State whether or not at Woodland you saw salmon.

Mr. PERKINS. Yes, sir; I did.

Mr. PARSONS. What was the run there at that time?

Mr. PERKINS. Good.

Mr. PARSONS. As you remember it now, how long were they in constructing that dam?

Mr. PERKINS. Two years, as I remember it.

Mr. PARSONS. So that there would be two years that the fish would be blocked; there would be an obstruction there where the fish could not go by. Now, what is your judgment as to the tendency to retard or reduce the run of fish in the years to come by their being blocked out for a couple of years? Would that have some effect?

Mr. PERKINS. Yes, sir.

Mr. PARSONS. State whether or not you, yourself, saw fish in the fishway at Woodland.

Mr. PERKINS. I did, and I also saw them go through and jump out of the water after they got through the fishway.

Mr. PARSONS. That is over about the dam?

Mr. PERKINS. Yes.

Mr. PARSONS. Is that fishway constructed the same as under the general plan of the State of Maine, with rest pools in every check?

Mr. PERKINS. Yes, sir.

Mr. SMITH. How high was that dam?

Mr. PERKINS. About forty-three feet.

Mr. PARSONS. How high have salmon got to jump to get from one check to the other?

Mr. PERKINS. They have not got to jump at all.

Mr. PARSONS. They swim right up through the swift water?

Mr. PERKINS. They just go from one check to another.

Mr. PARSONS. You have a plan of a fishway with you?

Mr. PERKINS. I have a plan of the Penobscot River, which is similar, only it has a double check. We had to use a double check in order to keep the fish near the dam.

Mr. PARSONS. The fishway at Woodland is on that general plan?

Mr. PERKINS. Yes; only longer.

Mr. POWELL. What is the height of this one?

Mr. PERKINS. This one here?

Mr. POWELL. Yes.

Mr. PERKINS. Twelve feet. That is on the Penobscot.

Mr. PARSONS. But the one at Woodland is forty-three feet?

Mr. PERKINS. It is forty-three feet.

Mr. PARSONS. Now, I will ask you in relation to the spawning ground below Grand Falls, not Woodland, but below Grand Falls; whether you have recently examined the river there to see what the spawning grounds were.

Mr. PERKINS. I have.

Mr. PARSONS. When.

Mr. PERKINS. Yesterday.

Mr. PARSONS. Were you there before?

Mr. PERKINS. Yes.

Mr. PARSONS. You have been there a good many times?

Mr. PERKINS. Yes.

Mr. PARSONS. What do you say in relation to the spawning ground above Grand Falls?

Mr. PERKINS. I would say that there is plenty of chance for the fish to spawn below Grand Falls.

Mr. POWELL. Between that and Woodland?

Mr. PERKINS. Above Woodland.

Mr. SMITH. Is this spawning ground below the first obstruction dam?

Mr. PERKINS. No; it is miles above.

Mr. SMITH. It is above the second?

Mr. PERKINS. Yes; fourteen miles.

Mr. CLARK. These spawning grounds are in the St. Croix itself, or in the tributaries?

Mr. PERKINS. In the tributaries and in the St. Croix.

Mr. PARSONS. What is the condition of the bottom of the river?

Mr. PERKINS. It is gravelly.

Mr. PARSONS. A natural spawning bed?

Mr. PERKINS. Yes.

Mr. PARSONS. Have you ever seen in the State of Maine any better spawning ground than there would be in the St. Croix below Grand Falls?

Mr. PERKINS. Well, that is a good spawning bed there. It is all right for fish to come in. The spawning ground there is similar to the spawning ground on the east branch of the Penobscot. They seek it to spawn.

Mr. PARSONS. If some of these fishways were out of repair from year to year and obstructed so that the fish could not get up, would there be a tendency for the fishing to grow less and less until finally the fish disappeared?

Mr. PERKINS. Surely.

Mr. PARSONS. Are you familiar with the conditions at Dennis River?

Mr. PERKINS. I am.

Mr. PARSONS. Were you there when they objected to placing the fishway because they said it would not do any good, that there were no fish that wanted to go by?

Mr. PERKINS. Yes, sir.

Mr. PARSONS. Did you hear the statement of the chief warden of that county as to the thirty thousand fish that did go by last year?

Mr. PERKINS. I did.

Mr. PARSONS. State whether or not it was about three years after it was built before the salmon to any extent found that fishway.

Mr. PERKINS. I think it was.

Mr. CLARK. After the fish have left the St. Croix and gone away from the old home by reason of these obstructions that you speak of, do they come back?

Mr. PERKINS. I do not believe that they ever leave their own home, not wholly.

Mr. CLARK. Do they come back from year to year during the time that this obstruction is on and finding that they can not enter the old home go somewhere else?

Mr. PERKINS. They will come back into the river. Speaking of the height of the dam, down at Damariscotta, there is a dam fifty-two feet high and we run millions and millions of alewives over that dam every year, and they are still coming now as plentifully as they did years ago.

Mr. PARSONS. Were you there at the time they estimated that there were forty thousand alewives in that fishway at one time?

Mr. PERKINS. Yes, sir.

Mr. POWELL. At this dam that you speak of below here, last year where twenty thousand salmon were seen, how high is the fishway?

Mr. PERKINS. Twelve feet.

Mr. POWELL. How many pools are there?

Mr. PERKINS. Eight.

Mr. POWELL. So each leap would be about a foot and a half?

Mr. PERKINS. There is no leap in the fishway inside. They just went from one pool to the other. They come into the fishway and lie in this check; then the water comes down and they flow into the other check and from that on across.

Mr. POWELL. What do you call that fishway?

Mr. PERKINS. That is the Dennysville fishway.

Mr. POWELL. But what is the name of the patent, so to speak? Has it any particular name?

Mr. PERKINS. No.

Mr. PARSONS. It has no particular name. It is used by the Federal Government. It is simply called a ladder. It is a succession of falls, but here it is a succession of open waters.

Mr. SMITH. Below the obstruction, as you get to the lower waters where the salmon come up to the obstruction, what provision did you make in your dam as high as forty feet to guide the salmon into the ladder?

Mr. PERKINS. The white water running into the mouth of the fishway controls the salmon coming in.

Mr. SMITH. The salmon that come up against this obstruction find their way through the narrow gates?

Mr. PERKINS. Yes; until they find a way to go through.

Mr. MILLS. Did you ever do any fly fishing yourself for salmon?

Mr. PERKINS. No, sir.

Mr. MILLS. You have caught them, I suppose?

Mr. PERKINS. I have never fished for sea salmon.

Mr. MILLS. When you commenced your evidence you stated that you visited the St. Croix whenever there was an obstruction in one of these dams. Which dam was that?

Mr. PERKINS. At the concrete dam.

Mr. MILLS. Which dam?

Mr. PERKINS. The upper dam.

Mr. MILLS. Who was building it?

Mr. PERKINS. The company was building it.

Mr. MILLS. What company?

Mr. PERKINS. The St. Croix Paper Company.

Mr. MILLS. That was the time that you visited it and that is the obstruction that you spoke of?

Mr. PERKINS. That is the obstruction that I spoke of up there.

Mr. MILLS. And at that time there were fish there?

Mr. PERKINS. Yes.

Mr. MILLS. Quite a number of them, you said. How many were there?

Mr. PERKINS. I saw a dozen or fifteen salmon there.

Mr. MILLS. Do you know what year that was?

Mr. PERKINS. I do not remember.

Mr. MILLS. You said something about the year 1914. That would not be the year, would it?

Mr. PERKINS. I just mentioned that. I thought it was somewhere about that time.

Mr. MILLS. But the dam was built at Woodland. You are referring to Woodland now and not Grand Falls?

Mr. PERKINS. No; I mean Grand Falls. That is where I saw the fish.

Mr. MILLS. It was at Grand Falls that you saw the fish?

Mr. PERKINS. Yes.

Mr. MILLS. I understood you to say you saw some fish in the fishway.

Mr. PERKINS. I did.

Mr. MILLS. What year was that?

Mr. PERKINS. I can not remember.



Mr. MILLS. So your testimony regarding that would not be of much importance as to time; it would be simply to the effect that they can get up through that fishway.

Mr. PERKINS. They were getting through there.

Mr. MILLS. How many?

Mr. PERKINS. I saw a dozen in the fishway at that time. We shut down the upper gate and there were salmon about the whole length of the fishway working through.

Mr. MILLS. Did you see any at the top?

Mr. PERKINS. Yes; in the feed flume and from the feed flume out into the river.

Mr. MILLS. But you do not remember what year that was?

Mr. PERKINS. No.

Mr. MILLS. Was it after the construction of the Grand Falls dam or before?

Mr. PERKINS. Before.

Mr. MILLS. You spoke of the spawning grounds; that is, of grounds which you say are suitable for spawning grounds. Did you ever in your experience of thirty-four years, or in your experience on the St. Croix, know salmon to spawn in the Mohannes stream or other streams below Woodland?

Mr. PERKINS. No.

Mr. MILLS. Never at any time did they spawn there?

Mr. PERKINS. No, sir.

Mr. MILLS. As a matter of fact, is it not the habit and tendency of these sea salmon that we have on the Atlantic coast to go as far as they can get up to the upper water?

Mr. PERKINS. Yes, sir.

Mr. MILLS. That is their tendency and that is their habit. Then, when you say to this Commission that there are suitable spawning grounds below Woodland you are expressing the opinion that the gravelly bottom and sandy bottom that you saw would be suitable places for salmon to spawn, provided the salmon thought so too?

Mr. PERKINS. Yes.

Mr. MILLS. But you never had any knowledge or information that they would spawn there?

Mr. PERKINS. No, sir.

Mr. MILLS. You know something about the Penobscot River, I presume. How many fish do they catch in the Penobscot River year after year?

Mr. PERKINS. What do you mean, in the tide water?

Mr. MILLS. Yes.

Mr. PERKINS. Well, I have known just exactly, but I do not know that I could tell you now.

Mr. MILLS. If I should state to you that in 1896, as far back as that, they took six thousand fish in the Penobscot, would that be approximately a correct statement?

Mr. PERKINS. I should think that would be all right.

Mr. MILLS. Have you any record of the number of fish caught in the St. Croix River in the past twenty-five years?

Mr. PERKINS. No, sir.

Mr. MILLS. Have you any idea as to the number that have been caught in the past twenty-five years in the Penobscot?

Mr. PERKINS. No, sir.

Mr. MILLS. Would not this be true, that they catch more salmon in one year in the Penobscot River than have been caught in twenty-five years in the St. Croix River?

Mr. PERKINS. I do not know.

Mr. MILLS. Has your Department any record as to how many have been caught in the St. Croix River in the past twenty-five years?

Mr. PERKINS. I have not.

Mr. MILLS. The Penobscot River is a tidal river, is it not?

Mr. PERKINS. Yes, sir.

Mr. MILLS. What about the tidal condition on the St. Croix about the dam known as No. 1? Does the tide go above that?

Mr. PERKINS. I do not think so.

Mr. MILLS. As a matter of fact, you know that it does not?

Mr. PERKINS. I should say it does not.

Mr. MILLS. The tide comes up to the Union Dam? Is that correct?

Mr. PERKINS. That is correct.

Mr. MILLS. Can you state to this Commission what the rise and fall of the tide would be at the Union Dam?

Mr. PERKINS. No, sir.

Mr. POWELL. Is that the first dam?

Mr. MILLS. Yes, sir.

Mr. POWELL. What is your rise in the river here, about twenty feet?

Mr. MILLS. About twenty-four feet. Have you any experience, Mr. Perkins, as to the effect on the salmon of the refuse and acids from the mills in the Penobscot River?

Mr. PERKINS. Yes, sir.

Mr. MILLS. Where are those mills situated?

Mr. PERKINS. The first mill is situated at Ordway. The next one is at what we call Great Works.

Mr. POWELL. How far above the mouth of the river?

Mr. PERKINS. Ten miles.

Mr. POWELL. Oldtown is how far?

Mr. PERKINS. Twelve miles.

Mr. POWELL. It is farther upstream?

Mr. PERKINS. Yes.

Mr. MILLS. And the others?

Mr. PERKINS. We have no others above there.

Mr. MILLS. Are there any sawmills on that river?

Mr. PERKINS. No; they are all gone.

Mr. POWELL. Have there been sawmills above these two dams?

Mr. PERKINS. Yes; the whole length of the Penobscot River.

Mr. POWELL. How far up?

Mr. PERKINS. Away to Oldtown, the whole length of the river. They have burned down and are gone. There is nothing there now.

Mr. MILLS. Are there dams across that river?

Mr. PERKINS. Yes, sir.

Mr. MILLS. And fishways in them?

Mr. PERKINS. Yes, sir.

Mr. MILLS. What is the highest dam on that river in which you have a fishway?

Mr. PERKINS. Twelve feet.

Mr. MILLS. Do fish come up that?

Mr. PERKINS. Yes, sir.

Mr. MILLS. And spawn?

Mr. PERKINS. Yes, sir.

Mr. MILLS. How far up do they go?

Mr. PERKINS. They go up what we call the East Branch into Met-tawamkeag River.

Mr. MILLS. And still beyond that?

Mr. PERKINS. And I have heard older men say that they went away to the boundary line.

Mr. MILLS. What distance would it be from the boundary line to the dam farthest down on the Penobscot.

Mr. PERKINS. One hundred and fifty to one hundred and seventy-five miles.

Mr. MILLS. Did you ever hear of any spawning a short distance above these dams?

Mr. PERKINS. Yes.

Mr. MILLS. Whereabouts?

Mr. PERKINS. Twelve miles.

Mr. MILLS. Above which dam?

Mr. PERKINS. The first dam.

Mr. MILLS. And between the first and the second dams?

Mr. PERKINS. Yes.

Mr. MILLS. Have you any actual experience of that yourself?

Mr. PERKINS. Yes, sir.

Mr. MILLS. Can you tell me your own experience?

Mr. PERKINS. One year our fishway went out at Gordon. The fish could not get by and they sought the Otter Stream back of where I live. They all spawned in that stream that year. That is a branch of the Penobscot.

Mr. MILLS. You say that is a branch of the Penobscot?

Mr. PERKINS. Yes, sir, a small stream.

Mr. MILLS. In any quantity?

Mr. PERKINS. Yes; a big quantity.

Mr. MILLS. Now, speaking of this Dennysville stream, which Mr. Parsons referred to; how many years were fish away from that river before they commenced to come back?

Mr. PERKINS. That I could not tell you. My attention was first called to the Dennysville River by the fish not getting by. They wanted a new fishway. So I sent down and installed a fishway there which has been successful. Mr. Parsons spoke of twenty thousand fish going through there.

Mr. MILLS. What kind of fish were those?

Mr. PERKINS. Atlantic salmon.

Mr. MILLS. All of them?

Mr. PERKINS. All of them that went by, but the river was full of humpback.

Mr. CLARK. What is a humpback?

Mr. PERKINS. That is a Pacific salmon.

Mr. MILLS. Your Department put in a considerable quantity of humpback fry?

Mr. PERKINS. No, sir; our Department never did; the United States Department did.

Mr. MILLS. In very considerable quantities?

Mr. PERKINS. Yes.

Mr. SMITH. Is the humpback indigenous to the Atlantic waters?

Mr. PERKINS. No.

Mr. MILLS. It was an attempt to see what they would do.

Mr. SMITH. Have they been planted here?

Mr. PERKINS. Yes.

Mr. POWELL. Have they increased?

Mr. PERKINS. Yes; they have.

Mr. MILLS. Do you know what rivers the humpback salmon have been going up to spawn in?

Mr. PERKINS. Yes, sir.

Mr. MILLS. What were those rivers?

Mr. PERKINS. The Pennamaquam River and the Dennysville River. Those are the only two successful rivers where I have known of the humpback coming in. They were planted in the Penobscot but we have never gotten any of them.

Mr. MILLS. What is your view as to the distance these salmon go to sea?

Mr. PERKINS. Around on the Pacific coast?

Mr. MILLS. No; the Atlantic coast with which you are familiar.

Mr. PERKINS. That I could not tell you.

Mr. SMITH. Nobody can tell.

Mr. PERKINS. I have heard of them catching them on the Grand Banks. I have heard them tell about stripping the fish and they said that when we stripped the fish we killed them. I have heard of their catching one on the Pacific coast with our tag on it.

Mr. MILLS. Do they go beyond twenty or thirty miles from the mouth of the river?

Mr. PERKINS. I could not tell you.

Mr. MILLS. You have not any knowledge of that?

Mr. PERKINS. No, sir.

Mr. MILLS. One of the Commissioners asked about their habits in returning to the same river.

Mr. PERKINS. They certainly will come back.

Mr. MILLS. To the same river?

Mr. PERKINS. Yes.

Mr. MILLS. But you have no knowledge of what distance they go out to sea?

Mr. PERKINS. No.

Mr. MILLS. At the present time at the Grand Falls Dam can salmon get up over that?

Mr. PERKINS. I should say not.

Mr. MILLS. At the present time they can not do that?

Mr. PERKINS. No, sir.

Mr. MILLS. And there is no way of getting them above Grand Falls?

Mr. PERKINS. No, sir; unless they went over during this high water this last spring.

Mr. MILLS. What time of the year was that?

Mr. PERKINS. That was in June, I think.

Mr. MILLS. The time that the mills went out on the St. Croix was the last day of April.

Mr. PERKINS. I do not know what time the mills went out there. I do not know just what time the high water was. I was speaking of the Penobscot River.

Mr. MILLS. Do Atlantic salmon run in your river as late as the first of April?

Mr. PERKINS. Yes; they started in the river about the first of April.

Mr. MILLS. Then, to summarize, your view is that the fish can get up over the fishway at Woodland; they can not get up over the Grand Falls Dam; there are spawning grounds which you think would be suitable, if the fish would develop them, between Woodland and the lower dams.

Mr. PERKINS. Yes; there is not a question but what they would pass the Woodland Dam all right if the fishway is kept open from obstruction.

Mr. MILLS. Well, there seems to be a difference of opinion between you and Inspector Calder.

Mr. SMITH. What reason is there why salmon with an unobstructed stream would not seek the St. Croix as well as the balance of these rivers?

Mr. PERKINS. There is no reason.

Mr. SMITH. You can not see why the St. Croix is not just as good a salmon stream as any other, except for the obstructions?

Mr. PERKINS. That is all.

Mr. MILLS. Are there any other reasons besides the obstructions?

Mr. SMITH. Yes; I wanted to ask about the pollution.

Mr. MILLS. Yes; that is what I am taking up now. Are there any reasons other than the obstructions that would cause salmon to leave the river?

Mr. PERKINS. No; I have never heard of a river that has been so polluted by acid or lime but what fish would come along.

Mr. MILLS. I did not ask you that. I asked you if there are any reasons other than the obstructions that would cause salmon to leave the river.

Mr. PERKINS. No, sir.

Mr. MILLS. And that would be your testimony.

Mr. PERKINS. That would be my testimony.

Mr. MILLS. Then, I would like to say to you that every writer on fish, especially migratory fish, differ entirely from you. Now, take up the question of decaying sawdust. Would that have any effect on salmon?

Mr. PERKINS. I can only speak of the Penobscot River. As I tell you, a few years ago there were sawmills the whole length of it, and the sawdust was being put in and the salmon ran up just the same into the river to spawn.

Mr. MILLS. What about sewage? What is your view as to the salmon being one of the most sensitive fish to odors? Have you any information about that?

Mr. PERKINS. No, sir.

Mr. MILLS. None whatever?

Mr. PERKINS. No, sir.

Mr. MILLS. The sewage from the town of Woodland all goes into the St. Croix River, does it not?

Mr. PERKINS. Yes, sir; I think so.

Mr. MILLS. All of it?

Mr. PERKINS. Yes, sir.

Mr. MILLS. There are certain wastes from the pulp and paper mills at Woodland?

Mr. PERKINS. Yes, sir.

Mr. MILLS. Have you ever visited Beren Bay on the St. Croix River?

Mr. PERKINS. No, sir.

Mr. MILLS. You do not know where it is?

Mr. PERKINS. No, sir.

Mr. MILLS. You have not any knowledge, then, as to the deposit of refuse in that bay at the present time?

Mr. PERKINS. No, sir.

Mr. MILLS. None whatever?

Mr. PERKINS. No, sir.

Mr. MILLS. Have you ever noticed any deposits in the water below Woodland at any time you have visited it?

Mr. PERKINS. Yes, sir.

Mr. MILLS. Will you describe it?

Mr. PERKINS. It was fiber-like floating down from the pulp mills. I imagine it was something from where they were grinding wood pulp.

Mr. MILLS. To what extent?

Mr. PERKINS. Quite a lot of it.

Mr. MILLS. Do you think that has any effect on the migratory fish?

Mr. PERKINS. No.

Mr. MILLS. In your judgment, it does not?

Mr. PERKINS. No, sir; not as I am judging of the Penobscot.

Mr. MILLS. I am speaking of the St. Croix.

Mr. PERKINS. By stuff coming into the Penobscot similar to the stuff they are turning out at Woodland.

Mr. MILLS. It is similar, is it?

Mr. PERKINS. Yes.

Mr. MILLS. What becomes of that waste stuff?

Mr. PERKINS. It all goes down to the ocean, I suppose, and is washed away into the high waters.

Mr. MILLS. If it is not able to go down into the ocean, what becomes of it? Does it settle to the bottom in time?

Mr. PERKINS. Yes; and the fall takes it down into the ocean and the river then becomes clean.

Mr. MILLS. No matter what the quantity is?

Mr. PERKINS. No.

Mr. MILLS. My information regarding this Beren Bay, Mr. Perkins, is that some years ago there was a depth of fourteen or fifteen feet of water there, and that is above the dam at Woodland, and that some years ago, before the pulp mill was erected, there were fourteen or fifteen feet of water in Beren Bay. To-day it is practically filled up. Have you any information as to that?

Mr. PERKINS. No.

Mr. MILLS. You do not know whether that is so or not?

Mr. PERKINS. No.

Mr. MILLS. Then, so far as your testimony goes on the question of pollution, the only testimony you can give to this Commission is that on the Penobscot River what comes from the paper and pulp mills there is not injurious to the salmon? Other than that, you have no information to give to the Commission?

Mr. PERKINS. No.

Mr. PARSONS. Just a question or two of Mr. Perkins. Where is your home situated, Mr. Perkins, with reference to the Penobscot River?

Mr. PERKINS. Twelve miles above Bangor.

Mr. PARSONS. On the bank of the river?

Mr. PERKINS. Yes, sir.

Mr. PARSONS. And the testimony that you have been giving was not only given through your experience as inspector of the State of Maine, but from your personal knowledge and your observations of the shores of that river?

Mr. PERKINS. Yes, sir.

Mr. PARSONS. And in going to the headwaters to spawn the fish are so determined that this pollution of the water, so to speak, would not affect them? That is, they would go the same on the Penobscot River. Now, I will inquire of you if when there have been obstructions or those fishways have been out of repair you have noticed there right near your home that the salmon have hung for two or three weeks in what we call pollution waiting for the obstruction to go by.

Mr. PERKINS. I have.



Mr. PARSONS. Is it not the object of salmon to get fresh water in which to spawn?

Mr. PERKINS. That is what they run up for.

Mr. PARSONS. And when they find it and find an obstruction, after waiting a certain length of time, as you yourself have observed, they spawn in the river itself.

Mr. PERKINS. Yes, sir.

Mr. PARSONS. I want to inquire of you if the spawning beds in the Penobscot River, where the fish have spawned because there was an obstruction and they could not get by, are any better spawning beds than you have observed here in the St. Croix River?

Mr. PERKINS. No, sir.

Mr. PARSONS. That is all.

ARTHUR BRIGGS, a witness called on behalf of the petitioner, after being first duly sworn, was examined and testified as follows:

Mr. PARSONS. Your home is where?

Mr. BRIGGS. Winthrop, Maine.

Mr. PARSONS. I will ask you whether you are the general superintendent of the fish hatcheries of the State of Maine?

Mr. BRIGGS. Yes, sir; I am.

Mr. PARSONS. How long have you had experience in fish culture?

Mr. BRIGGS. Twenty-two years.

Mr. PARSONS. How long have you been employed by the State of Maine as its general superintendent of fish hatcheries?

Mr. BRIGGS. Fifteen years the first day of last February.

Mr. PARSONS. State whether or not your business has required you to have special supervision of spawning grounds, the taking of salmon for spawning, the propagation of eggs after spawning and the distribution through the waters of the State of Maine?

Mr. BRIGGS. That has been my business for the last sixteen years, wholly.

Mr. PARSONS. I will ask you if you examined yesterday the St. Croix River below Grand Falls.

Mr. BRIGGS. Yes, sir; I did.

Mr. PARSONS. What do you say in relation to the spawning beds that you found there?

Mr. BRIGGS. There were plenty of nice gravel bars on both sides of the river and there was no sediment on the bottom any more than you would find in the ordinary river where the salmon would clean it up and spawn on it.

Mr. PARSONS. Do those spawning beds compare favorably with spawning beds throughout the State of Maine?

Mr. BRIGGS. Yes, sir.

Mr. PARSONS. Is it your observation that where sea salmon seek headwaters in which to spawn if there is an obstruction they seek the fresh water below the obstruction in which to spawn?

Mr. BRIGGS. They have to.

Mr. PARSONS. Is Sebago one of the largest inland waters of the State of Maine?

Mr. BRIGGS. Yes, sir; it is one of the largest.

Mr. PARSONS. State whether or not on account of there being small inlets the fish spawn on the gravel beds there right in the lake itself.

Mr. BRIGGS. Yes, sir; at White Springs.

Mr. PARSONS. Are there spawning beds there?

Mr. BRIGGS. Acres of them.

Mr. PARSONS. Have you any doubt that if the fish were permitted to go up this river to Grand Falls they would seek a spawning ground below the falls in which to spawn?

Mr. BRIGGS. If they could not get above they would have to spawn on those gravel beds.

Mr. PARSONS. And they would spawn if it was fresh water that they want to spawn in?

Mr. BRIGGS. They would have to spawn because they could not very well hold the spawn.

Mr. PARSONS. Is it your observation as an expert that our Atlantic salmon when planted and going down to the sea will always come back when three or four years old to the place where planted to spawn?

Mr. BRIGGS. The largest percentage of them would go back.

Mr. PARSONS. And you would call that practically all of them?

Mr. BRIGGS. Yes, sir; practically all of them.

Mr. CLARK. Suppose there is an obstruction after they have gone back and they are turned away from their home ground and that happens for two or three years, do they get in the habit of staying away, or will they come back each year?

Mr. BRIGGS. I should be afraid that in a few years they would stop coming.

Mr. PARSONS. Although, you say, some might come back.

Mr. BRIGGS. Some might come back, but the greater portion of them would divert to some other waters.

Mr. PARSONS. You understand, of course—and I have stated it to the Commission—what the policy is of the State of Maine in waters that have been depleted as to planting fry back in the headwaters wherever we want a spawning bed so that those fish, after they come from the sea, will come into those spawning grounds to spawn. If the State of Maine pursues its present policy and plants fry up in the St. Croix River below Grand Falls, and the fishways

are built and kept open on the St. Croix River, have you any doubt that those fish would come back there to spawn where they are planted?

Mr. BRIGGS. No, sir.

Mr. PARSONS. So that that policy, if pursued a few years, would bring them back there the same as they are coming back on the Piscataquis River?

Mr. BRIGGS. It would take four years to get your first run back.

Mr. SMITH. You speak of the fish all meeting an impassable obstruction. They have to spawn?

Mr. BRIGGS. Yes; they have to spawn.

Mr. SMITH. And, therefore, when they have struck this obstruction of which we have spoken the fish spawn at that place. Have you any means of knowing what becomes of the eggs? Do they hatch?

Mr. BRIGGS. I could not tell you as to that.

Mr. SMITH. So that the spawning ground is of no account unless not only the eggs are there but the fry or the young fish are protected from bad waters and from their ordinary enemies until they are of a size to take care of themselves.

Mr. BRIGGS. If the water were pure I see no reason why they would not hatch and grow there as well as farther up the stream.

Mr. PARSONS. In that connection, I would like to ask Mr. Briggs this question: What is the size of the salmon and how large salmon have been caught in Sebago Lake?

Mr. BRIGGS. We have caught them there in nets weighing thirty and thirty-one pounds.

Mr. CLARK. Is that lake connected with the sea?

Mr. BRIGGS. It is screened from the sea now.

Mr. CLARK. Then, there are no migratory fish there now.

Mr. BRIGGS. Not now.

Mr. PARSONS. And I would add for the information of the Commission that prior to the erection of the screen there was no possible chance for the fish to get back if they went down to the sea. There were ten very high dams, and that was the proposition made by me to them, that if they would build this screen, which cost twenty-five thousand dollars, the fishways would not be required over those high dams.

Mr. CLARK. Then, you naturalize the fish in the State of Maine?

Mr. PARSONS. Yes; but there has been no possible way for the fish to get back into Sebago Lake from the sea for probably seventy-five or one hundred years.

Mr. CLARK. Mr. Parsons, how well do these sea fish thrive in the fresh water all the time?

Mr. POWELL. They are an inferior fish.

Mr. PARSONS. There are four lakes in the State of Maine that are original homes of the land-locked salmon.

Mr. CLARK. Do your Atlantic salmon come up there?

Mr. PARSONS. They are Atlantic salmon, but they are land-locked and they have been there hundreds of years.

Mr. SMITH. Then, if the salmon come up from the sea to spawn and the eggs are hatched and they are confined to fresh water, there is no reason why they should not still survive and become habituated to that particular water?

Mr. PARSONS. That is the way we get our land-locked salmon.

Mr. MAGRATH. You are not interested, are you, Mr. Parsons, in a fishway in the Grand Falls Dam?

Mr. PARSONS. I am not.

Mr. MAGRATH. Why not?

Mr. PARSONS. For this very reason: As has been stated here, they have helped to build this screen at Grand Lake Stream and the fish can not get up there.

Mr. MAGRATH. Suppose the Canadian Cottons should build a screen down at their dam. How would that suit you? I mean to say that you are interested in getting salmon up to the Grand Falls Dam. You are not interested in getting salmon above the Grand Falls Dam. I would like to know the reason.

Mr. PARSONS. The reason is that there is a screen at Grand Lake which shuts them off.

Mr. MAGRATH. Why are you willing that it should shut them off?

Mr. PARSONS. Because of the spawning grounds below. There are twenty miles of good spawning ground. But I am eliminating for the purpose of this hearing the spawning grounds below Woodland.

Mr. MAGRATH. But in the development of the fish industry are you not interested in having these salmon go above Grand Falls?

Mr. POWELL. Why cut them off at Grand Falls?

Mr. PARSONS. Why was the screen maintained? For a great many years the salmon had been going down. There is quite a large village at Grand Lake where the people depend upon fishing and the summer sport for their living. There are fifty guides around there all depending upon that fishing. The fish had been growing poorer and poorer for years simply because they would go down over Grand Falls and could not get back and we found they were running through the Woodland fishway.

Sir WILLIAM HEARST. If you had compelled them to build a fishway at Grand Falls, they would have gotten back?

Mr. PARSONS. I do not know.

Mr. MAGRATH. What is the difference in cost between a fishway and a screen at Grand Falls?

Mr. PARSONS. I have never estimated the cost of a fishway at Grand Falls, but an engineer stated that it would be a matter of forty thousand dollars. The State of Maine engineer has not figured it, that I am aware of.

Mr. TOWNSEND. What is the relative effect of that screen upon Canada and the United States? Is it beneficial to the United States or detrimental to Canada?

Mr. PARSONS. Not as the conditions were before.

Mr. TOWNSEND. Well, at the present time.

Mr. PARSONS. I would not say it was detrimental to either country. There is a chain of lakes containing land-locked salmon, and the screen is to keep in the land-locked salmon, but at the same time it keeps out the Atlantic salmon.

Mr. CLARK. Where are those locations?

Mr. PARSONS. In the State of Maine.

Mr. CLARK. Then, the screen keeps the salmon in the State of Maine and prevents them from going into the St. Croix?

Mr. PARSONS. Yes.

Mr. CLARK. They would not be land-locked salmon if it were not for the screen, would they?

Mr. PARSONS. They have always been considered as land-locked salmon.

Mr. CLARK. And yet they go away to the sea.

Mr. PARSONS. And that makes Atlantic salmon of them.

Mr. CLARK. Does going to the sea and not being able to get back make land-locked salmon of them?

Mr. PARSONS. I understand that there is no difference between Atlantic salmon and land-locked salmon.

Mr. CLARK. What I am trying to get at is, does your screen there make land-locked salmon? In other words, the purpose of putting your screen there was to make them land-locked salmon, was it not?

Mr. PARSONS. They were land-locked salmon and had been probably for a thousand years, and we wanted to keep the land-locked salmon there so they would not go to the sea.

Mr. CLARK. If they went to the sea they would not be land-locked salmon. It is not a difference in the species of the salmon, but a difference in their home and their going from one place to the other.

Mr. PARSONS. And their size. The land-locked salmon once in a while average ten pounds.

Mr. TOWNSEND. Have you ever had any conference with the Canadian authorities over that screen business?

Mr. PARSONS. Yes, sir.

Mr. TOWNSEND. At the time you constructed it or authorized its construction?

Mr. PARSONS. Before.

Mr. TOWNSEND. Did the Canadian authorities protest against the construction of that screen?

Mr. PARSONS. Not at all.

Mr. SMITH. If there were a fishway at the obstruction of the falls of which you speak, would that decrease the run of the salmon where they can be land-locked? Or would they seek still other waters above Grand Falls?

Mr. PARSONS. There would be other waters. That is only one branch, as I understand it, of the St. Croix River.

Mr. SMITH. I mean if the fish could be made to pass over or above Grand Falls, that would decrease the spawning grounds of which you are speaking. What effect would it have on the upper stretches of the St. Croix River with respect to salmon?

Mr. PARSONS. It might reduce the spawning grounds.

Mr. SMITH. I am speaking of letting the fish go above Grand Falls.

Mr. PARSONS. Yes.

Mr. SMITH. When they get above Grand Falls and they do go up the fishway, are there not spawning grounds all along the St. Croix River and its tributaries and streams?

Mr. PARSONS. There must be more or less.

Mr. SMITH. Then, why not have a dam all through at Grand Falls?

Mr. PARSONS. That would not allow them to go up into the Grand Lake Stream. If this Commission assumed authority and ordered a fishway at Grand Falls, it would open up that very territory, but the State of Maine does not ask that. We are asking that they shall have opportunity to use the spawning ground which they already have.

Mr. SMITH. Would it not add to the fish of both countries if the salmon had free passage above Grand Falls?

Mr. PARSONS. It might give them an opportunity to establish a spawning ground farther north, but not any better spawning ground than below, and it would be the same as in Sebago Lake where they spawn right in the lake itself.

Mr. SMITH. Have there ever been salmon in the St. Croix River above the falls?

Mr. PARSONS. Are you speaking of the Atlantic salmon?

Mr. SMITH. Yes; seagoing salmon.

Mr. PARSONS. I should doubt it very much, and yet there must have been salmon in fresh water years ago because that is what created the land-locked salmon. This screen was for the purpose of

protecting the land-locked salmon which would go down and could not get back.

Mr. SHAW. Will you explain where that screen is? Is it across the St. Croix River?

Mr. PARSONS. Not at all. It is away inland. There is another big lake below that. Above Woodland it must be fourteen miles.

Mr. CLARK. Is that up the St. Croix or up some branch?

Mr. PARSONS. It is up a branch, not on the St. Croix at all. There has been a screen built there the same as in other inland waters.

Mr. SHAW. How is it with respect to the river that goes through Princeton?

Mr. PARSONS. It empties into the river at Princeton after flowing through one big lake.

Mr. SHAW. How far above Grand Falls does the stream flow into the St. Croix which you have caused to be screened?

Mr. PARSONS. I could not answer that question; there will be parties here that can; but it is a very short distance. It can not be more than a few miles.

Mr. FRANK C. MURCHIE. It must be about six miles from the Grand Falls Dam to Princeton and about eight miles from Princeton up through Big Lake, Long Lake and Lewis Lake to the mouth of Grand Lake Stream. It would be about three miles from Grand Lake Stream up to where the stream is a foot of Western Grand Lake.

Mr. PARSONS. Grand Lake Stream empties into the St. Croix River, does it not?

Mr. FRANK C. MURCHIE. No, sir; it empties into Big Lake and Big Lake empties into Long Lake and Long Lake empties into Lewis Lake.

Mr. PARSONS. Now, that is a chain of lakes. How far is it from the mouth of all those lakes to the dam?

Mr. FRANK C. MURCHIE. Six miles.

Mr. PARSONS. Then, that would be six miles above Grand Falls.

I do not think of anything further from Mr. Briggs.

Mr. CALDER. May I be permitted to ask Mr. Parsons a question now?

Mr. MAGRATH. Is that agreeable to you, Mr. Parsons?

Mr. PARSONS. Certainly.

Mr. CALDER. Did the St. Croix Pulp & Paper Company contribute to the cost of the Grand Lake screen?

Mr. PARSONS. I have already stated that I so view it.

Mr. CALDER. What was the amount of their contribution?

Mr. PARSONS. \$5,500.

Mr. CALDER. What was the consideration you gave for making that contribution?

Mr. PARSONS. That the State of Maine would not ask for a fishway there if they built this screen at Grand Lake to protect the landlocked salmon that were going down over the dam and could not get back.

Sir WILLIAM HEARST. Mr. Parsons stated that originally.

Mr. MILLS. I do not know that the Commission has it clear that this west branch of the St. Croix is wholly and entirely in the State of Maine, while the east branch is the boundary line between Maine and New Brunswick.

Mr. MAGRATH. Do you wish to ask the witness any questions, Mr. Mills?

Mr. MILLS. No questions.

Mr. MAGRATH. Your next witness, Mr. Parsons.

Mr. PARSONS. The next witness will be corroborative of these two witnesses and I shall not take up the time of the Commission to put him on. We rest our case here.

Mr. TOWNSEND. I want to ask if there is anybody in the room familiar with the effect of a proposed fishway as an obstruction to the waters or a diversion of the waters of the St. Croix River?

Mr. MILLS. I think I can say to you for the respondents that we are not raising that question at all.

Mr. TOWNSEND. Do you admit that it does not have any effect at all as an obstruction or as a diversion?

Mr. MILLS. We are not taking that position at all in any way, shape or form as to an obstruction or a diversion.

Mr. TOWNSEND. As a member of the Commission, and expressing the views of the other members, I would like to know, because there is no dispute as to our jurisdiction over that question, whether this is a diversion of the water. So far as I am concerned, I do not care whether it is little or much, I would like to know whether it is a diversion or obstruction, and if it is, whether this proposed plan increases that diversion or obstruction. Can anybody give us any information on that subject?

Mr. PARSONS. Our understanding is that it does not increase. There is no diversion and it does not increase the use of water that was already in existence and has been for sixty years.

Mr. TOWNSEND. Are there any new fishways proposed to be put in?

Mr. PARSONS. On the St. Croix?

Mr. TOWNSEND. Yes.

Mr. PARSONS. I know of none.

Sir WILLIAM HEARST. It is admitted by all parties, then, that the fishways did exist in these two dams in times past.

Mr. PARSONS. I understand so.



Sir WILLIAM HEARST. And it is only a question of reestablishing fishways that have been in existence for sixty years?

Mr. PARSONS. Yes; and instead of being repaired were permitted to go wholly to pieces.

Mr. MILLS. In that further connection, I think it is true that the old fishway in the dam of the Canadian Cottons, Limited, was, as a matter of fact, on the Canadian side of the river, and that the one at the Union Dam was somewhere near the center of the river. But, so far as the quantity of water is concerned, we are not raising any question.

Mr. MAGRATH. You might as well proceed now, Mr. Mills. Mr. Parsons is through.

Mr. MILLS. Mr. Chairman and members of the Commission, I want to express my appreciation to you gentlemen for hearing me at all in this matter in view of the fact that I did not have the consent of the Government of Canada. I do want to state to the Commission that I made application for that consent and I noticed that in your rules of procedure applications must be submitted to this body through the respective Governments, but in reading the rules I noticed that did not apply to responses; that they could be filed provided consent was obtained. I have been communicating with the State Department. The time was limited owing to the time we were served with a copy of the application, and consent was not obtained. I simply wish to express my appreciation of the fact that I was allowed to appear here without having obtained the formal consent of the Canadian Government.

At the outset I want to say that the Canadian Cottons, Limited, F. H. Todd & Sons, and Maritime Electric Company, Limited, want to look at this matter from a broad standpoint and not a technical standpoint in any way, shape or form. Their position is simply this: They believe with Mr. Parsons, the Commissioner of Inland Fisheries and Game for the State of Maine, that migratory fish should be protected. I think people of the present day and generation believe that. But before they are called upon to make an outlay, possibly of from fifteen thousand to twenty thousand dollars, they feel that there should be some evidence that the Department of Marine and Fisheries of Canada, as well as the authorities of the State of Maine, is satisfied that it would be a benefit to the fisheries; first, that the fisheries exist; second, that the introduction of these fishways in those two dams would materially promote fishing. If that can be established before this Commission, we have not a word to say.

Mr. Parsons, I think, stated to this Commission that the plans that they had outlined for the Canadian Cottons dam would cost

in the vicinity of five thousand dollars. I think Mr. Parsons will agree that the fishway there would cost considerably more than the fishway at the Union Dam, the first dam on the river.

Mr. PARSONS. Permit me to interrupt you a moment. The fishway at Union Dam is to be a wooden one costing less.

Mr. MILLS. Then, I am correct in the statement that the fishway at the Union Dam would cost less than the one at the Canadian Cottons, Limited.

Now, one of the Commissioners spoke of the attitude of these parties whom I am representing. They, as I said, are perfectly willing to establish a fishway, provided, first, it is established that there is a fishery to be protected, and, second, that the installing of the fishway will protect that fishery.

I have here a letter from the engineer who drew the plans for the fishway in the dam at Union, and he was asked by the company, my clients, as to what his estimate would be as to the cost.

Mr. SMITH. Who is the man that makes that estimate?

Mr. MILLS. Green & Wilson, civil and constructing engineers of Waterville, Maine. I understand they were the ones who had something to do with the plans, who, in fact, actually drew the plans. The estimate for the Union dam is \$7,747. Mr. Parsons states that the one at the Canadian Cottons dam will cost more. So when I say from fifteen thousand to twenty thousand dollars, that is the expenditure which my clients will be called upon to make.

Now, as to the question of the extent and value of the salmon fishery. There is one section of the Treaty which I would like to ask the Commission to bear in mind when considering this question, and that is Article VIII. This application, I presume, is made under Article III, but I think in considering this matter and before arriving at a conclusion Article VIII may possibly have some bearing on the matter. Article VIII says:

The following order of precedence shall be observed among the various uses enumerated hereafter for these waters, and no use shall be permitted which tends materially to conflict with or restrain any other use which is given preference over it in this order of precedence:

- (1) Uses for domestic and sanitary purposes;
- (2) Uses for navigation, including the service of canals for the purposes of navigation;
- (3) Uses for power and for irrigation purposes.

The foregoing provisions shall not apply to or disturb any existing uses of boundary waters on either side of the boundary.

Now, unless it may be established before this Commission that this fishery is of sufficient importance to warrant the respondents in going to an expenditure of from fifteen thousand to twenty thousand dollars, I say this Commission should not make an order unless they are so satisfied as to the installing of these fishways.

As to the establishment of a fishway on the St. Croix River at the present time, we state they are nonexistent; that taking the history of salmon fishing on the St. Croix River and going back twenty-five years, there were more fish caught in one year on the Penobscot River than have been caught on the St. Croix River since within the memory of man residing in that vicinity. There is only one pool for fly fishing on the St. Croix River; there has never been but one pool; and that is below the Union dam.

Now, commencing at St. Stephen and Calais, there is an international bridge. To give you perhaps a little better idea than you already have of the location of these dams and the distances, the first small falls above the international bridge which passes between St. Stephen and Calais is situated about two to three hundred yards above the bridge. There are no mills or plants of any kind in connection with that falls. When the tide comes that falls is obliterated. Passing above that you first come to the Union dam, or the falls at the Union so-called, which I would estimate to be a distance probably above that of a mile. That is the Union dam owned by F. H. Todd & Sons, under lease to the Maritime Trust Corporation of Halifax, and on which is situated the Electric Company. I included the name of F. H. Todd & Sons in the response because they are the actual owners of the dam and have been for a great many years. They leased it to the company and by some arrangement the electric light plant is situated on the Canadian side of the river furnishing electric power and light for both St. Stephen and Calais.

I might say in connection with our electric light and gas plant and water system that we go back and forth across the river; Calais supplies us with gas and we supply Calais with electric light, etc. It is a kind of a mutual arrangement between us.

Formerly the fishway in this Union dam was situated pretty nearly in the middle of the river, I think. The present plan contemplates putting a fishway in on the American side of the river. Then, above—

Mr. POWELL. Before passing that, what is the head of water there?

Mr. MILLS. I think it is about twelve feet.

Mr. PARSONS. That is the Union dam?

Mr. MILLS. That is the Union dam. Then at a distance probably from a quarter to half a mile is situated the falls upon which the dam of the Canadian Cottons, Limited, is built. Then above that, going for a distance of 11 or 12 miles, you come to the dam at Woodland.

Now, mention was made of three other small dams or falls between Woodland and the Canadian Cottons, Limited, dam. For

purposes of this hearing I think the Commission can forget the three small dams between Woodland and the dam of the Canadian Cottons, Limited.

About eleven or twelve miles, I should estimate, above the Canadian Cottons, Limited, dam is the dam at Woodland, and about eight miles above the dam at Woodland would be the dam at Grand Falls. The dam at Grand Falls, I understand, is a few feet less than the one at Woodland. I think you will find that the one at Woodland is somewhere in the vicinity of forty-three feet. I think you will find that the one at Grand Falls is in the vicinity of thirty-six or thirty-seven feet. I think this is approximately what the plans will show. I think that is giving you fairly accurately the distances from the international bridge at St. Stephen to the Grand Falls dam.

Just above the Grand Falls dam the western branch of the river comes in. The east branch then forms the boundary line between Maine and New Brunswick.

Mr. POWELL. Is the west branch where these lakes are?

Mr. MILLS. Yes. Mr. Parsons stated to this Commission a great many things that he had heard years ago. Fish stories, of course, can be heard most any day, but if you were to ask any of the residents, particularly the Indians, along the west branch of the river, you would find that in the old days the salmon were very, very plentiful along the west branch of that river; there were enormous quantities of them; and the salmon were never known to spawn anywhere except up along the farther waters of the St. Croix and the western branch. Fish were never known to spawn below Grand Falls, and, in fact, for miles above, and I think you will find every text book writer on the habits of the salmon shows that they simply go as far as they can to the fresh water in the upper waters of the stream.

Mr. Parsons is now attempting here to change the habits of the salmon altogether by establishing an artificial spawning ground for them below Woodland. He has himself stated, and one or two witnesses have also, that they see no reason why the ground below Woodland would not be a good spawning ground. The only reason against it is that the salmon do not spawn there. That is the only answer to that. They never have and simply because a man comes here and expresses his opinion to this Commission that that would be a good spawning ground is no evidence that they have ever spawned there.

Going back a few years, there was apparently an abundance of salmon in the St. Croix River. There has not been submitted here

any evidence whatever to show the quantity. The Department of the State of Maine may have some evidence of the quantity each year. But, as a matter of fact, it can be shown, and it has practically been admitted here already, that they commence to decrease year after year. Now, what actually causes that decrease—a decrease which practically got so low that now there are no salmon and there have not been any caught in the past year or two in the pool below Union dam—I am not in a position to state or have a witness state definitely to this Commission.

Mr. SMITH. There must be a history of the salmon in the St. Croix River, if there ever were any in it. Are you speaking of the time before any of these obstructions complained of were erected? What do you know of the habits of the salmon in the St. Croix River, if there were any, before any of these obstructions were put in it?

Mr. MILLS. I am speaking of the time before the dam at Woodland was built and before the paper mill was erected, when there was a fishway at the Union dam and also one at the Canadian Cottons dam.

Mr. SMITH. These dams were all built in modern times?

Mr. MILLS. Yes.

Mr. SMITH. I am speaking of the time before any of these dams were built. Have you any history of the run of salmon in the St. Croix River? Was there anything that prevented the fish from going up it?

Mr. MILLS. I do not know whether there are any authentic records or not, but history has come down to the effect that the salmon frequented the St. Croix in quite numerous quantities away back and continued to do so, to a certain extent, I believe, up to the time that the paper company built its dam at Woodland and established its mill there. From that time down the history is that salmon got much fewer and finally went away altogether and did not come back.

Now, I stated a moment ago that I was not prepared to say definitely what the actual cause is. I do not believe it is confined to any one thing. I believe it is caused by several things. I believe one of the reasons affecting the salmon is the refuse put into the river by the paper company at Woodland. I believe that the sawdust to a certain extent is another reason. I believe that the sewage from Woodland at the Woodland dam is a third reason.

Mr. SMITH. Do not the same conditions obtain on the Penobscot?

Mr. MILLS. Not to the same extreme. It is a different tidal river from this and washes the stuff away.

Mr. CLARK. On the New Brunswick side are there any laws in relation to the deposit of refuse from these mills?

Mr. MILLS. Yes, sir.

Mr. CLARK. Are those laws generally observed?

Mr. MILLS. It is pretty hard to watch them. At the present time there are very few sawmills operating on the St. Croix River. But take the bed of that river. It was dredged out a few years ago, the bed of that river below the international bridge, and a short distance below you will find a mass of decaying sawdust which has been there for years.

Now, I am submitting that that may not be in itself sufficient, but I say it is one of the causes.

Mr. SMITH. What, if anything, do the people you represent empty from their works into the river that would pollute the stream?

Mr. MILLS. So far as the electric company is concerned, they do not empty anything. There will be some waste from the dye house of the Canadian Cottons, Limited, that goes into the river there. Of course, the contention on the other side is that the two dams, not having suitable fishways in them at the present time, have prevented this. But Mr. Parsons stated himself that it was only a matter of four years or so ago since these dams went out altogether. In 1920 the fishway was in at the Union mills. Since that time it has not been there.

There has been no record produced to this Commission to show that the salmon were frequenting the St. Croix River to any extent prior to 1920, and if it had been so, that information would certainly be given to this Commission. But our contention is that before 1920, for some reason or other, some of the reasons which I have suggested I believe being the correct ones, the salmon had left the St. Croix River, not because they could not get up above Union dam, but by reason of these different things; the material which went in from the paper mill at Woodland, the sewage that went in from Woodland and the sawdust that was in the river.

Mr. POWELL. When did the fishway go out at the cotton mill dam?

Mr. MILLS. In 1919. While I am speaking of the cotton mill dam; they require a fishway put in there. I have had men who are interested in salmon fishing and who know conditions on the river tell me that there is no artificial fishway that can be built that is equal to the natural fishway that would be there to-day if one of the gates were left open or partially open; and still in the face of all that they want you to put in an artificial fishway by the Canadian Cottons, Limited.

To-day, just as it stands to-day, if the Canadian Cottons, Limited, will keep but one of their gates open there is a natural fishway going up the river St. Croix and better, in the judgment of people who know, than any artificial fishway that can be constructed.

Now, we say the fishery is nonexistent; not by reason of the fact that those fishways are not in these two dams. We say it is nonexistent for other reasons entirely, or at least if not nonexistent,

nonexistent to such an extent that the value of the fish to the State of Maine or to Canada is not sufficient to warrant the expenditure that we would be called upon to make to put in these fishways at the present time.

As far as the applicants are concerned, they have not shown to this Commission the extent and value of that fishway. Certainly they must have in their Department a history of the salmon fishery on the St. Croix River to show the extent of it. There is no evidence at all, and I have lived there all my life. I knew there was one pool on the St. Croix River below Union dam where within the past ten or fifteen years an occasional salmon was caught. There was none caught there this year. There was none caught there last year. There may have been perhaps half a dozen caught within the last five or six years. But it was being gradually depleted ever since the time the paper company erected its dam at Woodland. That is the time of the serious depletion.

Mr. CLARK. How long ago was that mill established?

Mr. MILLS. 1906. Since that time we say that the salmon fishing in the St. Croix River has been negligible until such time that it is practically nonexistent.

Mr. SMITH. Do you think it can be proven that the pollution of that stream is keeping the fish out?

Mr. MILLS. I can get you as many ideas almost as you have hairs on your head.

Mr. SMITH. I have no doubt that if they have quit running, the pollution had something to do with it.

Mr. MILLS. In connection with the salmon fisheries I have read the expression of opinion of experts of the United States and also experts of Canada, and you will get expressions both ways. One man will give you one reason, another will give a different reason. It is almost as bad as the size of the fish that a half dozen men saw one man catch, when you go into expressions of these experts. Textbook writers on the habits of the salmon tell us that they are the most sensitive fish with regard to odors. I think the experiments in connection with sawdust show that decaying sawdust when it comes to a certain degree will kill fish, while a lesser quantity will not. Sawdust is actually existent there in the river. Beren Bay, which formerly had a depth of 14 or 15 feet of water, is now filled up with refuse, some of which is locust bark, and on top of that is the refuse of the St. Croix Paper Company. At certain times of the year you will find floating on top of the water a mass of froth that will almost hold up that brief case. Then, there is the further fact that the men employed in the mills work now with gloves on their hands because if they get a scratch the condition of the water since the paper mill

was built is such that it will cause blood poisoning. If it will affect a man in that way, it certainly seems reasonable that it must have some effect on the salmon.

Mr. SMITH. Could they make any other disposition of that contaminating matter?

Mr. MILLS. I have no knowledge of that.

(Thereupon, at 12 o'clock noon the Commission took a recess until 1 o'clock p. m.)

AFTER RECESS.

The Commission reconvened at the expiration of the recess, the same parties being present as aforesaid, Mr. Magrath presiding.

Mr. MAGRATH. Since we took recess, gentlemen, we have had a confirmatory telegram respecting the death of President Harding, and out of respect we have decided to adjourn this hearing until Thursday, August 16, 1923, at St. Stephen at 10 o'clock a. m. Mr. Powell has prepared a resolution which will be embodied in the minutes.

Mr. TOWNSEND. I desire to say just a word in reference to the sad cause for our adjourning. The Commission has adopted a resolution which will be spread upon the record later.

You, our sister nation here, of course, can appreciate perhaps more than any other nation outside of the United States the terrible blow to our country. It has saddened us more than we can express; in fact, it is a shock almost to humanity, because he was a strong, healthy man apparently when he left on his trip for the North, and his death comes as a blow that is difficult for us here as representatives of our Government to analyze, even to understand.

While it is such a little thing to adjourn out of memory to him, yet it is one that we appreciate. We know we have your sympathy and that you realize just about what it means. We can not tell you what it means to us.

The future holds very uncertain things at all times, but to change the head of a great Republic upon whom so many responsibilities rested is a serious matter to contemplate. So far as I am concerned, and so far as my colleagues are concerned, we knew him and loved him very, very dearly. We had great respect for him. We had high hopes for the completion of his administration.

Now, it is questioned to some extent, although the Great Creator of All handles things in his own way, and it may be that some time we can be more reconciled to the terrible affliction which has come to us. I am sorry that this came at a time when we were holding a meeting because it rather undoes the American Commissioners. We are hardly able to comprehend what has happened. Since he left home he had been taken sick, but the reports were all favorable; he was



getting well, so we learned. We thought the sad news was a mistake; we could not and did not believe that he was gone. This morning while we were in session news came that it was sadly true, that he had gone. I appreciate, Mr. Chairman, the courtesies to all the members of our Commission which you have shown our country and its great President by this adjournment.

Mr. CLARK. Gentlemen, there is just one word I would like to address to you as Canadians on this occasion. It will be remembered that the last public utterance of any considerable length of President Harding was made on Canadian soil. In that address were held forth in these distressing times of world torment words of encouragement, of counsel, of prediction that I think both nations may well take to heart and profit by.

I would be glad if every person, every individual of both nations, would take it upon himself to read that great address of President Harding at Vancouver on his way home. It was to me one of the most effective, one of the most cheering, one of the most encouraging public utterances that has been made in these times of world distress. Such words could have come only from a heart filled with world sympathy and from a soul in full accord with our Anglo-Saxon aspirations. Truly "A Prince in Israel has fallen this day."

Mr. Chairman, in view of all that has happened I move that this Commission be now adjourned.

Mr. MILLS. Mr. Chairman, may I representing the only Canadian interests here and being the only member of the Canadian bar present be permitted to say a few words concerning the matter which has caused us to have this adjournment to-day?

I was very much pleased to hear the reference by Mr. Clark to the recent address of the late President Harding at Vancouver. I had the pleasure of reading that address, and I say this to this Commission, that I think the people on the St. Croix River, on the border line between the State of Maine and the Province of New Brunswick have greater reason to understand and appreciate those words that fell from the lips of the late President Harding at Vancouver than the people of almost any other part of the Dominion of Canada and the United States of America. We have lived here in the St. Croix Valley, except for political purposes, as one people. We have been united in our pleasures and pastimes from the time the two towns were started, and there are no people anywhere in this country of ours that will join with greater sympathy in this great loss. On behalf of the people I represent and of the bar of this country I wish to extend to this Commission our deepest sympathy in the loss which the public has met.

Sir WILLIAM HEARST. Mr. Chairman, the head of a great nation has fallen. A great patriotic and noble citizen has been called from his labor apparently in the very noontide of his life.

I want on behalf of the Canadian members of this Commission and on behalf of the people of Canada for whom as a Canadian I can speak to extend to you, brother Commissioners, and through you to the people of that great Republic, the United States of America, the sincere and heartfelt sympathy of the Canadian people. The hearts of the British people, the hearts of the Canadian people, beat in sympathy with you to-day in the great loss that has come. We feel it, sirs, almost as deeply as you do. The burdens to which Senator Clark has referred in these days of world turmoil and strife rest upon the shoulders of the English speaking people, the United States of America and the British Empire, upon your country and ours, and the head of your nation who has nobly and loyally been trying to carry these burdens has been taken from you in a very trying and very difficult time. We extend to you our sympathy because your chief citizen has been taken. Those of us who have had the privilege of meeting him extend our sympathy because of the character of the man himself who has been taken.

I can well remember the privilege I had of being introduced to him by Senator Clark before he had received the nomination as the presidential candidate in the late campaign. It is seldom that I have been so attracted to a man on being introduced to him as I was to the gentleman who afterwards became President Harding.

I do not want to take further time than to assure you of our sympathy and to second the motion of Senator Clark that we adjourn out of respect.

Mr. MAGRATH. You have heard the motion, gentlemen. It is carried. We will now adjourn.

(The Commission then adjourned.)

## INTERNATIONAL JOINT COMMISSION.

HEARINGS IN RE APPLICATION OF WILLIS E. PARSONS, COMMISSIONER  
OF INLAND FISHERIES AND GAME FOR THE STATE OF MAINE, FOR  
APPROVAL OF CERTAIN FISHWAYS IN THE SAINT CROIX RIVER.

ST. STEPHEN, CANADA, *August 16, 1923.*

Pursuant to the adjournment taken at St. Andrews, N. B., August 3, 1923, a committee of the Commission, composed of Mr. H. A. Powell and Mr. Clarence D. Clark, met at St. Stephen, N. B., Thursday, August 16, 1923, for the further taking of testimony in the above entitled matter.

Mr. Powell presided.

### APPEARANCES.

Charles M. Barnes, Assistant Solicitor, Department of State, Washington, D. C.

William J. Stewart, Chief Hydrographer for the Dominion of Canada, and Consulting Engineer for the Department of Internal Affairs.

John F. Calder, Inspector of Fisheries, Department of Marine and Fisheries of Canada.

H. J. Dudley, of Calais, Maine, representing the Chamber of Commerce of the city of Calais and the Attorney General of the State of Maine.

Willis E. Parsons, Augusta, Maine, Commissioner of Inland Fisheries and Game for the State of Maine.

N. Mark Mills, K. C. and Harold H. Murchie, St. Stephen, N. B., representing Canadian Cottons, Limited, F. H. Todd & Sons and Maritime Electric Company, Limited.

Mr. POWELL. Gentlemen, pursuant to the adjournment taken at St. Andrews, we have met here this morning to continue the taking of testimony. There is no need of any further announcement, as the authority under which we act was stated at St. Andrews. I will now call on Mr. Mills.

Mr. MILLS. Mr. Chairman, I know that you are anxious to get away.

Mr. POWELL. Now, do not cut yourself short. We are here on public service and it is our duty to hear everything that is to be heard. We will rush it as far as we can, but shall not cut you short.

Mr. MILLS. I think that statement is true, that we are all anxious to get the matter concluded at the earliest possible time. From certain things that have been mentioned by Mr. Parsons in conversation, I think if this committee would allow us ten or fifteen minutes we might arrive at some understanding which could be made a part of the record of the committee and no further hearing had.

Mr. CLARK. Would that be an understanding as to what the facts in the case are? That is what we are anxious to get at.

Mr. MILLS. It would be practically, if we can get together, an understanding as to what should be done in connection with these two contemplated fishways.

Mr. CLARK. Of course, that is a neighborly thing to do, but does it not occur to you that if the Commission has any jurisdiction at all it is the province of the Commission, or whatever authorities are in command of the situation, to declare what should be done upon this statement of facts as it may be presented.

Mr. MILLS. It would simply mean this, that if we should arrive at an understanding or agreement and that understanding or agreement should meet with the approval of the Commission, then our hearing would be at an end.

Mr. CLARK. I think that would be very helpful.

Mr. POWELL. But the trouble is, Mr. Mills, that we are only a wing of the Commission; we are only two. What our confreres may feel disposed to do we can not say; we can not speak for them. I think you had better present your facts here so they will be all before the Commission when we meet again.

Mr. MILLS. Then, possibly we had better go on.

Mr. CLARK. It is quite possible that by conference you could condense those facts or present them in such a way that there would not be very much controversy.

Mr. MILLS. I do not think there is much chance of our getting together on the facts. There seems to be more chance of our getting together on what should be done or what we would be willing to do.

Mr. POWELL. In the way of an escape from the facts?

Mr. MILLS. No; perhaps in the way of a compromise which the Commissioner of Inland Fisheries and Game for the State of Maine might think would accomplish his purpose, and going to an extent that our clients should be willing to do, still not believing they should do it. But in view of what the Commissioners have said, I suppose we had better go on.

Mr. POWELL. My feeling is this, that while the Fisheries Department of the State of Maine and the industrial interests on the St. Croix are represented here, there is back of all you people a large population of Maine and New Brunswick who might feel that the Commission should decide this matter and that it should not be disposed of by people who happen to be before the Commission without their having a say. They might be perfectly willing, knowing that the interests of all would probably subserve their interests so far as an investigation is concerned, yet they would like an investigation. But go on.

Mr. MILLS. There is one answer to that. All the interests that could possibly be concerned have been served with notice and only certain interests have appeared here.

Mr. PARSONS. I suppose the method of procedure would be controlled wholly by the Commission, and if they agree to reopen the matter so we can put in further testimony in relation to the condition, Mr. Dudley is here with witnesses for that purpose.

Mr. POWELL. We proceed very informally and only enforce rules where people are wandering about and consuming time. Outside of that, we allow the greatest privileges with respect to parties and with respect to producing testimony, but always bear in mind that it is inadvisable and contrary to the procedure of all courts to split your case.

Mr. PARSONS. The agreement that Mr. Mills thought might be arrived at was in relation to the construction of fishways at the Canadian Cottons and also with its first dam, or the St. Croix Light & Heat Company. Mr. Perkins, our inspector, and myself went down and examined carefully the Canadian Cottons' raceway which was called a channel on the American side of the river. We found that probably a natural fishway could be constructed there, which would be a great deal better than an artificial fishway, at very little expense by using the easterly gate out of the five. There are five gates there.

Mr. CLARK. That original rock that runs down?

Mr. PARSONS. Yes. We have witnesses here that will show that that channel was used by the fish in former years, so we think that at a little expense that could be made. We think that these fishways should be constructed at the lower mills to the satisfaction of Mr. Calder or such other representative of the Canadian Government as it may designate and to the satisfaction of Mr. Perkins, our fish inspector for the inland fisheries of the State of Maine. Somebody should approve those repairs when completed. If the Commission would like to hear further testimony, I would like to have

Mr. Dudley examine his witnesses and draw out the facts as has been suggested.

Mr. POWELL. Mr. Mills, I think they had better complete their case. You have not called any witnesses yet.

C. R. WHIDDEN was called as a witness on behalf of the petitioner, and, after being first duly sworn, testified as follows:

Mr. DUDLEY. Please state your name.

Mr. WHIDDEN. C. R. Whidden.

Mr. DUDLEY. You reside in Calais, Colonel Whidden?

Mr. WHIDDEN. I reside in Calais.

Mr. DUDLEY. And you have always resided there?

Mr. WHIDDEN. I have always resided there.

Mr. DUDLEY. How long have you been familiar with the fishing conditions so far as they relate to the salmon in the St. Croix River?

Mr. WHIDDEN. Since my boyhood.

Mr. DUDLEY. Will you tell the Commission, Colonel Whidden, in a brief way, about the salmon in the river, when they begin to run here and the quantity and what the conditions have been with reference to fishways and to fish frequenting the river.

Mr. POWELL. As you go along could you classify your facts with respect to the putting in of the dams, stating what the conditions were before these dams were put in, and what they have been since?

Mr. WHIDDEN. Originally this was the greatest salmon river on the New England coast. In colonial times the St. Croix was considered the finest salmon stream on the New England coast. They sent vessels from Boston here to load up with salmon. They had smoke-houses on the banks of the river and smoked and salted them.

After the mills were built there was a single pool at Salmon Falls where the cotton mill is now, and the town rented the privilege of taking salmon each year. Even in those days, as the books in Calais record, they paid as high as two thousand dollars a year for the privilege of standing in that one position and landing salmon with a dip net.

Mr. POWELL. To what records do you refer? Are these records public?

Mr. WHIDDEN. They are public records. They are in the books of the city of Calais. The St. Croix continued to be a great salmon river here for years, until the mills blocked their passage up river. Then they decided to put in fishways. One was located at Union, which for a long time was the only fishway on the river. Then, when they built the cotton mill, by agreement a fishway was constructed underneath the cotton mill, and when they built the pulp mill at Woodland they had a fishway constructed there.

The salmon have always continued to run freely. I have visited their spawning grounds on the East Branch a number of times in the spawning season.

Mr. POWELL. Is that above Grand Falls?

Mr. WHIDDEN. No; below Grand Falls. The salmon, the natural salmon, that ran originally in the St. Croix, was not a fly-raising salmon, and Mr. Frank Todd and myself arranged, through the Maine Commissioners and the New Brunswick authorities, to put in fry from rivers where they rose to the fly. After six years those first fry that we put in were large enough to test, and he and I in 1885 went to the Union Mills pool to see if they would rise to the fly. That afternoon we both secured salmon. That was in 1885, and from that year they rose to the fly each year until the blocking of the fishways prevented the passing of the salmon, and fly fishing on the St. Croix is now past. My last salmon I caught in 1910. I have not fished there since. A few have been taken with the fly since. The salmon that return here every year have been taken in weirs and by nets and other devices, but the passage to their spawning ground has been blocked.

Mr. POWELL. Where do you locate the spawning ground?

Mr. WHIDDEN. On the East Branch was their natural spawning ground.

Mr. POWELL. That is below Grand Falls?

Mr. WHIDDEN. That is about Grand Falls. The East Branch joins the West Branch at Grand Falls.

Mr. MILLS. Yes; I think Colonel Whidden said a moment ago below Grand Falls. The East Branch comes in above.

Mr. WHIDDEN. I thought you meant the river to the fishway. But they did spawn also up at Grand Lake Stream. I caught a salmon at Grand Lake Stream.

Mr. MILLS. That would be how many miles above Grand Falls?

Mr. WHIDDEN. That would be about sixteen miles, would it not, Mr. Murchie?

Mr. MURCHIE. I should think so.

Mr. DUDLEY. When you spoke of a fishway at Union, you had reference to the Todd dam?

Mr. WHIDDEN. Yes; that was always considered to be on American territory under the customs regulations. It was actually on the Canadian side. I have no doubt that if the fishways were opened and fry deposited in the river the fishing industry here could be restored. There is not a particle of doubt about it.

Mr. DUDLEY. Cross-examine.

Mr. MILLS. In the first of your evidence, Colonel Whidden, you spoke of the fishery on the St. Croix before the mills were built.

How far back is your mind taking you on that? Or is your evidence from what you have heard or what you have read? By the way, how old are you, Mr. Whidden?

Mr. WHIDDEN. Seventy-five.

Mr. MILLS. How was your information obtained upon which you base your statements to the Commission regarding the early fishery in the St. Croix?

Mr. WHIDDEN. I can remember when it was built.

Mr. MILLS. When the dams were built?

Mr. WHIDDEN. When the fishway was built.

Mr. MILLS. No, but you spoke of the dams, when they were first built. Do you know when the dams were first built at the Union?

Mr. WHIDDEN. No; I do not recall that.

Mr. MILLS. But you know from having been told, or from general information locally, that they were built first about the year 1800.

Mr. WHIDDEN. From 1800 to 1805.

Mr. MILLS. When the dams at the Union were first built.

Mr. WHIDDEN. Yes.

Mr. MILLS. And you spoke of vessels coming from Boston to load with salmon. Has that been within your memory?

Mr. WHIDDEN. No; that was in colonial times, I stated.

Mr. MILLS. And that would take you back to what year?

Mr. WHIDDEN. Colonial times were, of course, before 1780.

Mr. MILLS. From what do you get that information, from records or books?

Mr. WHIDDEN. From reading and from oldest settlers.

Mr. MILLS. Now, in what book did you read that statement?

Mr. WHIDDEN. Oh, in various newspaper articles, mainly.

Mr. MILLS. Newspaper articles?

Mr. WHIDDEN. Yes.

Mr. MILLS. Have you any of them in your possession?

Mr. WHIDDEN. I think I have. I preserved them.

Mr. MILLS. Did you ever read of vessels coming here from Boston in the early days to load with shad?

Mr. WHIDDEN. Yes, sir. As I mentioned, it was a shad river as well.

Mr. MILLS. You did not state that in your testimony.

Mr. WHIDDEN. I intended to.

Mr. MILLS. But you say that vessels came here and loaded with salmon.

Mr. WHIDDEN. I can remember even as a boy smokehouses where the station now is along there.

Mr. MILLS. For salmon?



Mr. WHIDDEN. Yes; I can remember as a small boy that smoke-houses still stood there.

Mr. MILLS. That would be about what year?

Mr. WHIDDEN. 1854. And old smokehouses were standing still, some of them.

Mr. MILLS. In 1854?

Mr. WHIDDEN. Yes; when I was six years old. I was born in 1848.

Mr. MILLS. Then, your memory takes you back to when you were six years old?

Mr. WHIDDEN. Yes.

Mr. MILLS. Did you know the late Ninian Lindsay of St. Stephen and the late William Porter?

Mr. WHIDDEN. Yes, sir.

Mr. MILLS. Now, this is a statement made by the late Ninian Lindsay regarding salmon fisheries in 1850:

The whole catch of salmon in the St. Croix during the past season, according to Mr. Lindsay's estimate, would not exceed two hundred fish.

Mr. WHIDDEN. In 1850?

Mr. MILLS. Yes, sir; in 1850.

Mr. WHIDDEN. That is a mistake.

Mr. MILLS. The whole catch of salmon in the St. Croix during the past season, according to Mr. Lindsay's estimate, would not exceed 200 fish, and the proportion of these were salmon lingering out of season below Union dam.

Mr. CLARK. Is that a statement by Mr. Lindsay or a statement of his statement?

Mr. MILLS. That is a statement of his statement.

Mr. CLARK. And what is the authority?

Mr. MILLS. M. H. Purley, Her Majesty's immigration officer for the Province of New Brunswick, giving a report in 1850 on the sea and river fisheries in New Brunswick.

Mr. POWELL. Is it published as a Blue Book of the Province?

Mr. MILLS. Yes.

Mr. WHIDDEN. That was before the weirs were built on the river.

Mr. MILLS. This was published in 1852 by the Queens printer of that day.

Mr. POWELL. Finnerty's?

Mr. MILLS. No; it was before his time.

Mr. PARSONS. I would like to inquire if he attributes that to the fact that there were dams without fishways at that time.

Mr. MILLS. Yes; that is a fact. There were dams way back there for years and years which had reduced the fisheries to that extent.

Mr. WHIDDEN. Well, there were no weirs built on the river at that time; but the Boston market was full of St. Croix salmon for year after year after the weirs were built.

Mr. CLARK. Perhaps it was like the Boston market being full of codfish now; everything but cod, but all labeled cod.

Mr. WHIDDEN. They have a codfish on the dome of the Boston Capitol.

Mr. MILLS. The gaspereau came up the river very plentifully in those early days?

Mr. WHIDDEN. Yes; and they still come—alewives.

Mr. MILLS. I thought that possibly when you spoke of the vessels coming here from Boston you might have been in error to this extent, that they came here to take away the shad and the gaspereau rather than the salmon.

Mr. WHIDDEN. No; the salmon companies' smokehouses were here on the banks of the river.

Mr. MILLS. In a report that Mr. Lindsay and Mr. Porter made in 1850 they say: "Vessels from Rhode Island of 100 to 150 tons burthen followed the fishing business on this river and were never known to leave without full cargoes. They had establishments on the American side of the river where they salted the gaspereau in vats and repacked them in barrels for the West Indian market. There were also several seines belonging to the inhabitants which were worked in the tideway of the river, the owners of which put up annually from 1,500 to 2,500 barrels of gaspereau for exportation, besides a sufficiency for country use. At the same time shad was taken in great quantities. Very frequently more than one hundred would be caught in a single net in a single night. These fish were also caught in large numbers at the Salmon Falls by dipnets, and also salmon were taken in abundance."

Mr. WHIDDEN. Yes.

Mr. MILLS. This is speaking of the early days, but Mr. Lindsay in his statement to this man said that in 1850 the total catch was down to 200 fish.

Mr. WHIDDEN. That is possibly caused by some special reason, because we know that the weirs in the river here for years and years took them by the hundreds.

Mr. MILLS. Now, speaking of the weirs on the river, Colonel Whidden, are there any weirs fishing salmon to-day?

Mr. WHIDDEN. Most of the weirs have gone out of repair.

Mr. MILLS. Then, there are no weirs fishing salmon to-day on the river?

Mr. WHIDDEN. Well, salmon are taken in the weirs. What there are are mainly constructed for the sardines and herring.

Mr. MILLS. When did you last visit a weir on the River St. Croix?

Mr. WHIDDEN. Five years ago.

Mr. MILLS. And did it have a salmon pound in it?

Mr. WHIDDEN. No.

Mr. MILLS. Now, along the St. Croix they did have weirs with salmon pounds in them?

Mr. WHIDDEN. Yes.

Mr. MILLS. How many years is it since you have heard of salmon being caught in those weirs, Mr. Whidden?

Mr. WHIDDEN. They were taken up to 1890. Louis Wilson took salmon every year at Red Beach.

Mr. MILLS. Up to 1890 at Red Beach?

Mr. WHIDDEN. Yes. That is the nearest weir to Calais.

Mr. MILLS. That would be about what, seven or eight miles down?

Mr. WHIDDEN. Six miles.

Mr. MILLS. Since that time have they been catching any salmon in the weirs at Red Beach?

Mr. WHIDDEN. Oh, yes.

Mr. MILLS. How many?

Mr. WHIDDEN. Well, Mr. Herbert Eaton when he was there at Bower's Beach, where he has a cottage, erected a weir just below Devils Head. He took salmon every year.

Mr. MILLS. Up to what year?

Mr. WHIDDEN. Up to 1895. He took seventeen in one night.

Mr. MILLS. And since that date?

Mr. WHIDDEN. Well, I have not kept a record of the weir business, but I know that some have been taken in the weirs, and I know they have been taken even this year.

Mr. MILLS. Since 1895 you say you have no record of what salmon were taken in weirs along the river below the bridge. Do you know whether there are any weirs along that shore at Red Beach now which have salmon pounds in them?

Mr. WHIDDEN. No, there is none in repair.

Mr. MILLS. The habit of the salmon and the tendency of the salmon coming in from the ocean, that is, the Atlantic salmon, are to go to the headwaters to get into the fresh water to spawn?

Mr. WHIDDEN. Yes.

Mr. MILLS. And on the East Branch the spawning grounds were above Grand Falls?

Mr. WHIDDEN. Yes.

Mr. MILLS. And you have known them to go as far as Grand Lake to spawn?

Mr. WHIDDEN. Yes.

Mr. MILLS. Have you any information as to the East Branch of the river. Have you known them to go as far up on the East Branch as Vanceboro?

Mr. WHIDDEN. Yes.

Mr. MILLS. You have known them to go up on the West Branch how far?

Mr. WHIDDEN. Grand Lake Stream.

Mr. MILLS. And on the East Branch how far?

Mr. WHIDDEN. Up to Vanceboro.

Mr. MILLS. Now, how far would it be from the mouth of the river here to Vanceboro?

Mr. WHIDDEN. By the river?

Mr. MILLS. Yes.

Mr. WHIDDEN. Mr. Murchie could give you that distance better than I could.

Mr. MILLS. Well, it would be approximately forty-odd miles, would it not?

Mr. WHIDDEN. Yes; forty odd miles.

Mr. MILLS. You caught your last salmon in 1910?

Mr. WHIDDEN. Yes.

Mr. MILLS. Would that be at the Union pool?

Mr. WHIDDEN. At the Union pool.

Mr. MILLS. How many did you catch that year?

Mr. WHIDDEN. Only one.

Mr. MILLS. Did you fish more than once?

Mr. WHIDDEN. I fished twice.

Mr. MILLS. Did you fish in 1909, the year before?

Mr. WHIDDEN. Not in 1909.

Mr. MILLS. Did you fish in 1908?

Mr. WHIDDEN. Yes.

Mr. MILLS. How many times? Do you recall?

Mr. WHIDDEN. Only once or twice. I was busy that year. In 1907 I took thirteen salmon. Mr. Murchie was present one day when I took three in one forenoon.

Mr. MILLS. That was in 1907?

Mr. WHIDDEN. Yes.

Mr. MILLS. Prior to that you fished approximately every year when you could get a chance?

Mr. WHIDDEN. Yes; from 1885.

Mr. MILLS. And caught fish right along practically up to 1907 or 1908?

Mr. WHIDDEN. Yes.

Mr. MILLS. And since 1910 have you fished at all?

Mr. WHIDDEN. I have not fished at all. It was too much work. I did want to complete a certain number in my record, but there was so much work to get a salmon that I gave up the fishing.

Mr. MILLS. By reason of the fact that they were getting scarcer all the time?

Mr. WHIDDEN. Yes.

Mr. MILLS. I think that is all.

Mr. DUDLEY. Colonel Whidden, with respect to salmon going up the St. Croix River for the purpose of spawning, do you know whether there are any gravel beds or places where salmon might spawn below Grand Falls?

Mr. WHIDDEN. Oh, yes. There are fine spawning beds between Grand Falls and Woodland and also below Woodland, but they never deposited their spawn there; they always seemed to want to get up as high as possible.

Mr. DUDLEY. Yes; and when they get up as high as possible, whether they are stopped by natural reasons or by dams, they then find a place to spawn, I suppose?

Mr. WHIDDEN. Certainly.

Mr. DUDLEY. Do you know the merits of the salmon pool at the Union on the St. Croix River as compared with the Penobscot River?

Mr. WHIDDEN. Yes; I have fished that salmon pool at Bangor.

Mr. DUDLEY. How do they compare?

Mr. WHIDDEN. The conditions are different. There were always more salmon taken in the Bangor pool than here, but for two or three years we exceeded their record.

Mr. DUDLEY. As a matter of fact, Mr. Herbert Eaton ceased to maintain a weir about 1895, did he not?

Mr. WHIDDEN. Yes.

Mr. MILLS. Just one more question, Colonel Whidden. Speaking of the gravel beds below Woodland, when did you last see those gravel beds?

Mr. WHIDDEN. I saw them every spring when I was on my hunts.

Mr. MILLS. The last year would be when?

Mr. WHIDDEN. 1915.

Mr. MILLS. In 1915 you were there?

Mr. WHIDDEN. Yes.

Mr. MILLS. And you were out on the gravel beds, were you?

Mr. WHIDDEN. No; I saw them from a canoe.

Mr. MILLS. From a canoe as you came by?

Mr. WHIDDEN. Yes. I once hooked a salmon at the Union and played him two hours, but he got over the falls and took away my leader and a double hook single fly. Two weeks later a man came into my office and stated that he had taken in his weir the night before a salmon with a hook in his mouth and the leader. I asked him for a description of the hook, and I told him that was my hook and to bring it up, together with the leader, and I would see. He brought it up the next day. The tendency of the salmon is that when a hook is left in their mouth they go back into the salt water so that the

corrosion of the salt water will relieve them of the hook. He was captured in Pettigrew's weir at Red Beach. He brought me up the leader and the salmon which I lost about two weeks before.

Mr. CLARK. Colonel, your testimony has been very interesting. I think you neglected to state your occupation or business during these years that you had lived in this neighborhood.

Mr. WHIDDEN. I am retired now. I do a little writing.

Mr. CLARK. But you were engaged in active business?

Mr. WHIDDEN. I held office over there. I edited two papers, one in Calais and one in Eastport.

Mr. CLARK. And practically all your active lifetime you devoted to outdoor sports on the river?

Mr. WHIDDEN. Yes, sir; I have fished all waters in this section of the country.

Mr. CLARK. And you are perfectly familiar with the habits of the denizens of the river and the best place to make their acquaintance at stated times?

Mr. WHIDDEN. Yes, sir; I have studied them all my life.

Mr. POWELL. Speaking of the American Atlantic rivers, were the Penobscot and Kennebec famous salmon rivers in the early days?

Mr. WHIDDEN. Both of them were good salmon rivers, but the St. Croix was considered the finest on the New England coast.

Mr. POWELL. How would they compare with the Restigouche?

Mr. WHIDDEN. At present, of course, that is far ahead, but in those earlier colonial days they did not know so much about the Restigouche. They took salmon on the rivers on the American side of the New England coast.

Mr. POWELL. Do you know anything about the habits of the salmon in those rivers to-day? Do they come up above the dams in the Penobscot and the Kennebec to spawn?

Mr. WHIDDEN. Yes; I think I understand their habits.

Mr. POWELL. Do they breed or spawn above the dams?

Mr. WHIDDEN. Yes; above the dams.

Mr. POWELL. And are the fishways effective in taking them to the waters above?

Mr. WHIDDEN. Yes, sir.

JAMES H. KERR was called as a witness on behalf of the petitioner, and, after being first duly sworn, testified as follows:

Mr. DUDLEY. How old are you, Mr. Kerr?

Mr. KERR. Forty-six.

Mr. DUDLEY. Where do you reside?

Mr. KERR. In Calais.

Mr. DUDLEY. Have you always resided in Calais?

Mr. KERR. Yes.

Mr. DUDLEY. What is your occupation, Mr. Kerr?

Mr. KERR. Laborer.

Mr. DUDLEY. Have you been familiar with the salmon conditions on the St. Croix River during your lifetime?

Mr. KERR. Well, to a certain extent, yes.

Mr. DUDLEY. Have you lived always near the salmon pool on the river at the Union?

Mr. KERR. Yes.

Mr. DUDLEY. Did you formerly fish the river?

Mr. KERR. Yes.

Mr. DUDLEY. How long ago did you begin to fish and guide other parties who were fishing on the river?

Mr. KERR. About twenty years previous to 1916.

Mr. DUDLEY. What were the conditions in the earlier days when you fished and guided people, Mr. Kerr?

Mr. KERR. There were always plenty of salmon there.

Mr. DUDLEY. Plenty of salmon where?

Mr. KERR. At the Union pool.

Mr. DUDLEY. That is the pool below the Todd Dam at the Union?

Mr. KERR. Yes.

Mr. DUDLEY. How did the numbers of salmon go along year after year, Mr. Kerr?

Mr. KERR. I never could see much difference. In some years they would seem more plentiful than in others, but the average was about the same, I should say.

Mr. DUDLEY. In your first acquaintance with the fishing there was there a fishway in the Todd Dam?

Mr. KERR. Yes.

Mr. DUDLEY. Could the salmon go up through that fishway?

Mr. KERR. Yes, sir.

Mr. DUDLEY. Was there a fishway in the dam above, at the cotton mill?

Mr. KERR. Yes, sir.

Mr. DUDLEY. Could the salmon go up through there?

Mr. KERR. I suppose so. For all I know they did.

Mr. POWELL. Give us your own knowledge.

Mr. KERR. Well, I never saw any going through there, but it was generally supposed that they did.

Mr. DUDLEY. Did you see any salmon above the cotton mill dam?

Mr. KERR. Yes; I have seen salmon above the cotton mill dam.

Mr. DUDLEY. Have you seen them up as far as Woodland?

Mr. KERR. No; I never saw any at Woodland.

Mr. POWELL. Your answer, I suppose, you mean to cover——

Mr. KERR. Just above the dam.

Mr. POWELL. You never saw them above Grand Falls?

Mr. KERR. No.

Mr. DUDLEY. Has the dam at the Union remained the same height during your knowledge of the river, or has it been raised?

Mr. KERR. It has been raised.

Mr. DUDLEY. Just describe what the condition of the dam has been during your acquaintance with it.

Mr. KERR. Well, I should think that the dam has been raised three feet anyway since my first knowledge of it.

Mr. DUDLEY. Was there formerly a roll there where the salmon would go over at certain stages of water?

Mr. KERR. Yes. It is this roll that I am speaking about that has been raised.

Mr. POWELL. To make it more definite, do you mean that over which the salmon pass to go down river, or over which they would leap in their ascent up the river?

Mr. KERR. Over which they would leap going up.

Mr. DUDLEY. Mr. Kerr, up above the Todd Dam and below the cotton mill does the sewage come in there from Milltown, New Brunswick?

Mr. KERR. There was some. I do not know whether there is now or not.

Mr. DUDLEY. How long ago was there any?

Mr. KERR. About eight years ago.

Mr. POWELL. It has not changed, has it?

Mr. DUDLEY. I think not.

Mr. KERR. It stopped at the Catholic Church there.

Mr. POWELL. The reason I asked that question was that the Commission investigated the condition of pollution in boundary waters. We knew that the raw sewage passed into the St. Croix River and no recommendation was made that that be sterilized, so I imagine things are in the same condition to-day.

Mr. DUDLEY. I think so. Do you know, Mr. Kerr, of any salmon being caught near the mouth of the sewer?

Mr. KERR. Yes, sir; years ago I caught salmon at the mouth of it.

Mr. DUDLEY. Was that a favorite fishing spot, near the sewer, on account of the water?

Mr. KERR. Well, the only way I ever caught any salmon there was with a drift net.



Mr. DUDLEY. That was at the mouth and below the mouth of the sewer.

Mr. KERR. Yes; just along where that sewer used to come.

Mr. POWELL. And the sewer was in operation at the time?

Mr. KERR. Yes.

Mr. DUDLEY. Mr. Kerr, what about the salmon in the river at the Union during the last few years?

Mr. KERR. I do not know. I have never been on the river much these last few years. I think it was two years ago that I noticed some jumping there; one time where there was a hole in the dam just outside where the new mill stood. I was only there a few minutes.

Mr. DUDLEY. Were you a warden at the time here?

Mr. KERR. Yes, sir.

Mr. DUDLEY. A St. Croix fishery warden?

Mr. KERR. Yes, sir.

Mr. DUDLEY. When was that?

Mr. KERR. From 1913 to 1916.

Mr. DUDLEY. What were the conditions as to the salmon there then?

Mr. KERR. Plenty of them.

Mr. POWELL. What do you mean by "there?"

Mr. DUDLEY. At the Union pool.

Mr. POWELL. How many dams are below that?

Mr. DUDLEY. None. That is the first dam. Mr. Kerr, were the salmon using the fishway then at the Union dam?

Mr. KERR. Yes, sir.

Mr. DUDLEY. Mr. Kerr, do you know whether there are gravel beds that would be used as spawning beds by salmon between Woodland and Grand Falls?

Mr. KERR. Well, I never covered that water myself, but from the description that others have given me I should imagine there were.

Mr. DUDLEY. You may cross-examine.

Mr. MILLS. No questions.

Mr. POWELL. You have had some experience as a fish warden, I suppose, and are familiar with the habits of the salmon?

Mr. KERR. Yes, sir; but just so far as this locality is concerned.

HOWARD V. LEE was produced as a witness on behalf of the petitioners, and, after being first duly sworn, testified as follows:

Mr. DUDLEY. State your name, Mr. Lee.

Mr. LEE. Howard V. Lee.

Mr. DUDLEY. You reside in Calais?

Mr. LEE. Yes, sir.

Mr. DUDLEY. What is your occupation?

Mr. LEE. Track man on the Maine Central Railroad.

Mr. DUDLEY. Have you been acquainted with the salmon pool at the Union on the St. Croix River for some years, Mr. Lee?

Mr. LEE. For a few years back I have.

Mr. DUDLEY. Have you fished for salmon along there at that place?

Mr. LEE. Yes; drifted salmon.

Mr. DUDLEY. Below the Todd Dam?

Mr. LEE. Yes, sir.

Mr. DUDLEY. Are there any salmon there in the river below the dam?

Mr. LEE. There have been.

Mr. DUDLEY. How recently have you found salmon there?

Mr. LEE. Well, I have seen salmon there this year, a few, I saw three this year and three or four years ago there were plenty at the season.

Mr. DUDLEY. As a matter of fact, they were quite plentiful two years ago, were they not?

Mr. LEE. Yes, sir.

Mr. DUDLEY. Could they get up through any fishway at the Union two years ago?

Mr. LEE. No.

Mr. DUDLEY. Do you know when the fishway went out of use there, so far as fish were concerned?

Mr. LEE. Well, I do not just exactly remember, but I think it was in 1915, somewhere around there or before that; maybe it was before that.

Mr. DUDLEY. You have seen fish there at the pool at the Union Dam or below the Union Dam this summer?

Mr. LEE. Yes, sir.

Mr. DUDLEY. I think you may cross-examine.

Mr. MILLS. You got all your fish by poaching, did you not?

Mr. LEE. Yes, sir.

Mr. MILLS. That is all.

Mr. CLARK. I do not want to use this word "poaching" as a term of reproach, but when you speak of that you mean the taking of fish out of season?

Mr. LEE. No; in season with a drift net.

Mr. CLARK. Taking them with a net instead of with a hook?

Mr. LEE. Yes.

Mr. MILLS. And I presume mostly at night?

Mr. LEE. Yes.

Mr. PARSONS. I think, if the Commissioners please, that the word "poaching" should be stricken out. The witness is not required to incriminate himself.

Mr. CLARK. There is no incrimination. I wanted to get at the fact that the fish were there and they were taken by somebody.

Mr. PARSONS. Mr. Mill's question itself was improper.

Mr. DUDLEY. The fish were there. That is what we are mostly interested in.

PERCY L. LORD was produced as a witness on behalf of the petitioner, and after being first duly sworn, testified as follows:

Mr. DUDLEY. You reside in Calais, Mr. Lord?

Mr. LORD. Yes, sir.

Mr. DUDLEY. What is your occupation?

Mr. LORD. I am a druggist and I work in a bank.

Mr. DUDLEY. The Calais National Bank?

Mr. LORD. The Calais National Bank.

Mr. DUDLEY. Did you formerly fish for salmon in the River St. Croix?

Mr. LORD. I did.

Mr. DUDLEY. Will you, in your own way, state to the Commission your experience with reference to the fishing, when you began, what your success was, and how recently you fished.

Mr. LORD. During those years I used to go to the salmon pool along about the time when the paper company plant was built at Woodland. I can not remember how long ago it was; twelve or fifteen years ago. I used to go to the pool when the fishing was good, and my experience in the early years of my going there was very pleasant; I had very good success.

Mr. POWELL. What pool are you speaking of now?

Mr. LORD. At the Union below the first dam. The fishing was good in those years and a fellow even like myself who had not any skill could stand a chance of getting one once in a while. I continued to go there while the fishing was good, and, finally, it became so poor—I fished a whole season, as often as I could spare the time—and when during April, May, and June I did not get any fish I became discouraged.

Mr. DUDLEY. How recently did you fish?

Mr. LORD. I can not tell accurately. It seems to me it was twelve or fifteen years ago.

Mr. DUDLEY. I suppose you have no knowledge as to the condition of the fishway at the Todd Dam or that at the cotton mills.

Mr. LORD. I have no knowledge of them at this time, but during the years that I fished the pool I have seen fish going up the fishway at the first dam there above the pool.

Mr. DUDLEY. That is the Todd Dam?

Mr. LORD. That is the Todd Dam.

Mr. POWELL. That is the dam that is in the tideway?

Mr. LORD. Yes, sir.

Mr. POWELL. You say you have seen fish. How many did you see?

Mr. LORD. I could not tell you.

Mr. POWELL. You did not count them?

Mr. LORD. No; I did not count them. I have seen fish working up the sluice-like affair.

Mr. POWELL. Did they appear to have difficulty in getting up?

Mr. LORD. It seemed to be pretty handy for them.

Mr. PARSONS. Which fishway was that?

Mr. LORD. At the first dam, at the Union Mills Dam.

Mr. POWELL. What is the depth of water from the pond to the tail of the dam? How high is the Todd Dam?

Mr. LORD. I could not tell you.

Mr. MILLS. It is twelve feet at low water and five feet at high water.

Mr. DUDLEY. Have you any questions, Mr. Mills?

Mr. MILLS. No questions.

Mr. POWELL. I would like to ask Colonel Whidden a question or two.

C. R. WHIDDEN who had been previously called and sworn, testified further as follows:

Mr. POWELL. Colonel Whidden, you seem to be pretty well up in the fishing business, a kind of Izaak Walton. Speaking of the habits of salmon, is it true or not true of salmon, as of other fish, that they will mysteriously leave a river or a frequented ground for a number of years and then return?

Mr. WHIDDEN. No; it has never been so here; they have always come here.

Mr. POWELL. In some years would not the rush of salmon be much larger than in others?

Mr. WHIDDEN. Apparently.

Mr. POWELL. But there would always be some?

Mr. WHIDDEN. Yes.

Mr. POWELL. Speaking of shad and salmon and gaspereau; to what do you attribute the decline in quantity of these fish frequenting these waters and, consequently, the decline in the number of fish caught.

Mr. WHIDDEN. Shad can not stand sawdust and can not stand deleterious substances in the waters. That has killed out the shad. Their gills are very tender and the sawdust drove the shad from this river. This was a great shad river. So with the gaspereau, although they are not affected so much as shad. The gaspereau still run in these waters but they can not get above that fishway in the Union now.

Mr. POWELL. Is there not some universal operating cause in respect to both shad and gaspereau which has caused their numbers to decline remarkably in these modern days?

Mr. WHIDDEN. No. The Merrimac River was formerly a great shad river. It is the sawdust, the sewage and other substances placed in the water that drive the shad out. But salmon are not affected that way. They can stand any kind of pollution; they will go through sawdust; they will lie right where the pollution is coming from a mill, and Yarrow states in his book that he virtually believes that they go through quicklime to reach their spawning ground. But shad and gaspereau can not do that.

Mr. POWELL. Would they make what we might call a domicile in polluted waters?

Mr. WHIDDEN. Salmon?

Mr. POWELL. Yes.

Mr. WHIDDEN. If their fishway were closed and the waters below were polluted they would remain there for weeks in that pollution.

Mr. POWELL. Is it not a fact that salmon have ceased to frequent the waters of streams that have become polluted?

Mr. WHIDDEN. No; they will come so long as they can reach their spawning beds.

Mr. POWELL. You are a gentleman with a wide range of knowledge, I observe. Take the Thames, for instance, which in the early days used to be a very great salmon river. They have absolutely forsaken it in these modern times. Of course, that is a much polluted stream.

Mr. WHIDDEN. Yes; but it was an overfished stream. The cause of the decline of salmon in the Thames was the overfishing. If they could have reached their spawning banks on the Thames the pollution would not have obstructed them.

Mr. CLARK. Does not the tremendous traffic on the river also affect them?

Mr. WHIDDEN. Yes; that affects them, but the poachers are at work at them constantly. It passes through a thickly populated country and the fish do not have a chance; but there are still some in the Thames.

Mr. POWELL. Are there?

Mr. WHIDDEN. Yes; a few. That is caused by poachers not fishing for them because they have been fished in quantity, but they still go up.

Mr. POWELL. We would like to get all the information possible. Take sawdust, which is prohibited in Canada from being deposited in streams. The deposit of sawdust would have a bad effect on the spawning grounds of shad, would it not?

Mr. WHIDDEN. Yes; that would be probable.

Mr. POWELL. Would not that vary according to the character of the stream? If it was a sluggish stream your sawdust would be carried down the rips and the effect would not be as bad.

Mr. WHIDDEN. Oh, no.

Mr. POWELL. I presume you are familiar with the fact that the last twenty or thirty years have caused a tremendous falling off in the number of shad that are caught at the head waters of the bay.

Mr. WHIDDEN. Yes; I understood that.

Mr. POWELL. The industry is practically dead to-day at the headwaters, whereas it was a very flourishing one in times gone by?

Mr. WHIDDEN. Yes.

Mr. POWELL. And you attribute that to the sawdust in the streams, would you?

Mr. WHIDDEN. Yes; in the case of shad. They can not stand sawdust. Salmon never seem to mind it much. I have hooked them when the water was thick with sawdust.

Mr. MILLS. May I ask one more question in view of the statement of the witness? Colonel Whidden, you spoke of Yarrow. He is an English authority on fishing?

Mr. WHIDDEN. Yes, sir. By the way, Mr. Todd has a copy of his work. It is in two volumes.

Mr. MILLS. I have a copy and have been reading it. You made the statement that Yarrow said that the sawdust would not affect the adult salmon.

Mr. WHIDDEN. No; I did not say that because he did not mention sawdust in all his work.

Mr. MILLS. But he did mention pollution and he mentioned lime.

Mr. WHIDDEN. Yes.

Mr. MILLS. Yarrow does say, however, that lime and other deleterious matter polluting the river have a considerable effect on the fry and the spawn, does he not?

Mr. WHIDDEN. Yes.

Mr. MILLS. That is all.

Mr. POWELL. Anything further, Mr. Dudley?

Mr. DUDLEY. Nothing further.

Mr. MILLS. At the last hearing, gentlemen, we were speaking of the height of the different dams. And I find in the report—

Mr. POWELL. Will you excuse me. My mind has been revolving on this statement about 20,000 salmon going up this stream below St. Stephen.

Mr. MILLS. The Dennis Stream.

Mr. POWELL. Will you please explain just how that estimate was formed. It strikes me as being a tremendously large estimate.

Mr. MILLS. That is not the Dennis Stream on the Canadian side below this town. That is the Dennis Stream on the American side.

Mr. PARSONS. There is a Dennis River down in this county.

Mr. POWELL. How was that estimate formed?

Mr. PARSONS. That estimate was formed by the warden who attended the fishway. He reported to the office at Augusta that there were a large number of salmon running. I immediately delegated two wardens, the chief warden of that section of the county and also one of his deputies, to look after and guard that fishway so that there should be no poaching or unlawful fishing.

Mr. MILLS. I do not think you should use that word, Mr. Parsons. It is all right in the State of Maine.

Mr. PARSONS. It is all right in the way it is used. I am not asking a witness if he poached. They counted in twenty-four hours, by actual count, five hundred fish shooting down the fishway and estimated how many fish were in that fishway. The run lasted seven weeks, and both wardens told me that twenty thousand salmon was a low estimate of the adult salmon that went up that fishway.

Mr. CLARK. They estimated the entire run by the sample they took?

Mr. PARSONS. Yes; and what they saw from day to day.

Mr. POWELL. Now, I have another question. How is that supported by the catch that resulted from the increased number of salmon?

Mr. PARSONS. They have been catching salmon there since.

Mr. POWELL. Have you any figures which would be of service to us in respect to the catch that resulted from that?

Mr. PARSONS. I have not. I do not know whether there was any record of those caught in the weirs below or not. Salmon are taken and they are fishing in the pool just below the mouth of this fishway where the tide comes.

Mr. POWELL. Are they caught in large quantities in that pool?

Mr. PARSONS. They are not as yet.

Mr. POWELL. If twenty thousand salmon are going up there should be quite a number of salmon caught way up the stream.

Mr. PARSONS. They were going up.

Mr. MILLS. Are those Atlantic salmon?

Mr. PARSONS. Atlantic salmon.

Mr. MILLS. No Pacific salmon?

Mr. PARSONS. No humpback salmon there. That is, there are humpback salmon there but they do not try to catch them.

Mr. MILLS. In order to get before the Commission information as to the height of the dams I would like to read from the report of hearings and arguments in the matter of the application of the St. Croix Water Power Company and the Sprague's Falls Manufacturing Company, Ltd., for the approval of the obstruction, diversion, and use of the waters of the St. Croix River. This is printed at the Government Printing Office at Washington in 1915.

In this report, starting at page 79 there is a memorandum of an examination of the St. Croix River on August 3, 4, and 5, 1915. I read from the report as follows:

Members of party: Maj. F. A. Pope, Corps of Engineers, United States Army; Mr. Lindsay, assistant; Mr. William J. Stewart, hydrographic office, Canadian naval service; Mr. Charles McGreevy, assistant; Mr. T. T. Whittier, representing Mr. G. P. Hardy, consulting engineer for the St. Croix Paper Co.; Mr. George C. Danforth, assistant engineer, public utilities commission, State of Maine.

They make a report of a canoe trip down the river, and they submit, marked "Exhibit E":

Water powers on St. Croix River, Maine and New Brunswick. (The datum plane for all elevations is mean sea level.)

Under "Present power development; head developed; Union Dam at low water, 12 feet; Union dam at high water, 5 feet; cotton mill dam, 22 feet." The tide does not reach up above.

The next is Milltown; lower dam 6 feet. The Murchie dam is 12 feet. Then it goes on to the Woodland dam, 47 feet, and the Grand Falls dam, 49 feet.

Mr. POWELL. There must be some error in that.

Mr. STEWART. That is all right. That is the head developed at the power plant at Grand Falls. The water is diverted around the dam and it is between the level of the headwater and the tail water in the river where the power plant is. It has nothing to do with the height of the dam.

Mr. POWELL. That is, it is not at canal level all the time.

Mr. STEWART. The canal is practically at the same level.

Mr. CLARK. What was the purpose of the construction of that canal, Mr. Stewart?

Mr. STEWART. The Grand Falls dam is at the head of a long stretch of rips and a big slope. The power plant was put a little below



the dam and the canal was to take water to that instead of using pipes.

Mr. CLARK. How long is the canal?

Mr. STEWART. About half or three-quarters of a mile.

Mr. POWELL. I thought it was more. Now I catch what you mean, but I may not have expressed myself clearly. What I had in mind was the headwater in the falls, not the difference in level between the surface of the stream at Woodland and the surface above Grand Falls.

Mr. STEWART. It is the height of the water above Grand Falls and the height of the water at the foot of the rapids.

Mr. POWELL. But that is not the question that arises in dealing with salmon. The immediate drop from the surface above Grand Falls to the surface of the stream immediately below the falls I do not think could be more than twenty feet.

Mr. STEWART. Oh, yes, Mr. Powell. This figure is right.

Mr. POWELL. But we are not talking about the same thing. You are talking about the datum; the height above datum at Woodland in the stream; what the surface of the stream is above datum, and comparing that with the height above datum in the water above the falls. Now, for the purpose of power or for the purpose of salmon leaping, you do not go downstream, you take the surface immediately below the falls and take the height from that to the surface of the reservoir above.

Mr. STEWART. Of course, I will admit that at the present time the salmon would have higher to go because the water has been raised considerably above the dam.

Mr. POWELL. Still I have not made myself clear. If a salmon was going up stream it would have no difficulty at all until it got to the base of the dam.

Mr. STEWART. They could not get to the base of the dam because that is all dry now. It has been drained off and the water goes through the canal.

Mr. POWELL. It is all drained off now?

Mr. STEWART. Yes.

Mr. POWELL. And that is absolutely dry?

Mr. STEWART. Except for the leakage; yes.

Mr. POWELL. If that is the case, what is the use of talking about putting in a fishway there?

Mr. STEWART. They would have to have a fishway all up the slope.

Mr. POWELL. Then, how far would be the last jump of the salmon?

Mr. STEWART. Over the top of the dam.

Mr. POWELL. What would that be in feet? Would it be twenty feet?

Mr. STEWART. It would not be twenty feet at the dam.

Mr. POWELL. Now our minds are together. The greatest difficulty they would have to overcome is a rise of fifteen feet, if it is fifteen feet, immediately at the dam.

Mr. MILLS. While this does not follow in order, I want to refer to other pages of this same report, because these pages to which I am going to refer contain evidence which I have to make the basis of a short argument a little later on. I have no hesitation in saying now, however, that the position we are taking is that Mr. Parsons has actually placed himself out of court in this hearing here, by reason of the action that he has taken with the St. Croix Paper Company at the Grand Falls dam.

Commissioner Powell referred to the fact that when this hearing, the report of which I have in my hand and to which I have been referring, was held, it was agreed at that time that the fishway would be put in.

Mr. POWELL. That is unquestionable. That was the basis of our decision.

Mr. MILLS. Instead of reading this I will simply give the pages so that if the Commissioners wish to look the matter up they can refer to the conversation between the Commission and counsel engaged in the matter. I refer to pages 18, 19, 20, 27, 30, and 35.

Mr. CLARK. Your remarks will bring out the gist of the statements?

Mr. MILLS. Possibly I had better read one or two of them, but I am making an argument in connection with this lack of fishway at Grand Falls.

Mr. CLARK. I think it would be sufficient if you refer to that in your argument.

Mr. POWELL. While you are at that had you not better refer to the order that was made on that application? You will see a distinct implication, if not an expressed declaration, that a condition precedent to their building the dam was to complete a fishway. Turn to the order.

Mr. MILLS. The order is not in this report.

Mr. POWELL. Then you had better state that you also refer to the order made by the Commission.

Mr. STEWART. Here is a copy of the order.

Mr. POWELL. Turn to paragraph (f). It says:

Provision for a fishway has been made in the dam at the lower end of the power canal. This fishway has been designed to permit the passage of fish up and down stream through the power canal, but the fishway is not yet completed.

Mr. MILLS. That is a statement of the case. There is nothing in the order.

Mr. POWELL. But that is part of the order. It is a statement, but that statement evidently must be considered as incorporated in the order.

Mr. MILLS. The order itself does not refer to it.

Mr. POWELL. That may be because it was taken so much for granted that the fishway would be completed and maintained.

Mr. MILLS. In view of the discussion, I think that perhaps I had better refer to the statements made here. I read from page 18 of the report as follows:

Mr. MIGNAULT. I notice in paragraph (i) of the petition of the Sprague's Falls Manufacturing Co. (Ltd.) that certain provisions of their statute of incorporation are given, and among other conditions they are bound to build without delay and maintain in said dam such fishways and of such design as may be prescribed by law; have you built fishways in the dam, and do you maintain them? Do you maintain fishways such as are described?

Mr. COCKBURN. That matter has been taken up by us with the department of marine and fisheries of Canada, and it now stands awaiting the result of the action of the commission in this matter. The minister of marine has assured me that no action will be taken by his department—and the inspector of fisheries is here to confirm what I say—until a decision has been come to in this matter.

Mr. MIGNAULT. Are there no fishways in the dam?

Mr. COCKBURN. There has not been one constructed yet. The company is waiting to get the approval of the commission for the work that has been done, and then they will apply to the department of marine and fisheries and construct a fishway wherever the department desires. Is that true, Mr. Calder?

Mr. CALDER. Yes.

Mr. COCKBURN. The matter has not been neglected, but it has not yet been consummated. The company would much prefer to construct a fishway through the canal, if the commission approve of that canal, and it is allowed to remain as it is. The minister of marine assured me personally, in an interview I had with him at Ottawa, that there would probably be no objection to that being done. The fishway will be constructed, but it would be less expensive for the company to do if they knew where it should be constructed. Mr. Calder, of the fishery department, is here, as you know, and he will verify what I have said.

Later on the following appears:

Mr. WYVELL. Is there any way at all by which the fish can go up and down now?

Mr. COCKBURN. At the present time I think there is none.

Mr. WYVELL. It would be a good plan to make some temporary arrangement so that the fish could pass up and down.

Mr. COCKBURN. The company will make a permanent arrangement just as soon as they can.

Mr. WYVELL. I imagine that a temporary construction might be put in there now; it might be of some consequence that you should do that now.

Mr. COCKBURN. We appreciate that, and we did hope that this matter would be disposed of earlier and that a fishway might be constructed before this.

That is the reason there has been delay. We admit that there has been some delay, but we have been waiting on the action of the commission, and as soon as that is arranged and the commission gives a decision, if they give a decision by which that canal will be permitted to remain, there will be a fishway constructed forthwith at the expense of the company.

Mr. GARDNER. That would be subject even then to the action of Congress.

Mr. COCKBURN. Subject to the action of Congress and the department of marine and fisheries of Canada.

Mr. WYVELL. It occurs to me that it would be a good scheme to make some kind of a temporary arrangement now. Permanent injury may be done to the fishing by the dam that is there at present.

Mr. KOONCE. It is your intention, of course, to construct a fishway?

Mr. COCKBURN. Oh, yes; just as soon as this matter is settled; it is supposed to be quite a fishing stream.

Mr. GLENN. Of course, if you receive the permission of Congress it will only be on conditions that you construct a proper fishway.

Mr. COCKBURN. We will do so; we have a fishway at Woodland.

Mr. WYVELL. I do not follow you that there is any necessity for waiting for the action of Congress to construct this fishway.

Mr. KOONCE. Having your dam built there and no fishway it may be that the fish would be injured.

Mr. COCKBURN. We expected to have the fishway constructed by this time, and we are sorry for the delay, and we will not allow it to continue longer.

Mr. KOONCE. In any legislation which you will get from Congress there would certainly be a provision that you should construct a fishway.

Mr. COCKBURN. And whatever fishway we construct must also have the approval of the department of marine and fisheries of Canada.

Mr. KOONCE. I would suggest that if you wait until you get the approval of the United States Government to this proposition there may be serious injury done to the fishing industry.

Mr. COCKBURN. I dare say it would be perfectly safe for us to construct a permanent fishway and to take our chances on getting approval.

Mr. CLARK. At the time of that hearing and when this discussion of a fishway was going on was there any denial by anybody as to the necessity of a fishway at that point? Was it discussed at all?

Mr. MILLS. There is nothing of that nature in any way, shape, or form in this report. Further than that I can not speak.

Mr. CLARK. It is fair to assume from that report, then, that a fishway might be of service.

Mr. MILLS. Apparently the whole discussion was toward that end. I have read this report through from beginning to end, picking out references to the fishway, and I find no evidence whatever of that question being discussed at all.

Mr. POWELL. There are only two members on the Commission today who were members at that time. I am one of them. The matter of the utility of the fishway was not a matter before us at the time, and it was taken for granted that it would be all right.

Mr. CALDER. That is true.

Mr. CLARK. It was taken for granted that it ought to be there, was it not?

Mr. POWELL. Yes. I may be to blame, for I drafted both the order and the judgment of the court, and possibly I should have put it in that it had to be built and made that a condition of our approval, but I imagine that I did not do it because of the fact that by the law it would have to be put in.

Mr. MILLS. I wish to read further from the report at page 30 as follows:

Mr. POWELL. In addition to that you would have whatever advantage would accrue from the storage in equalizing the flow.

Mr. WHITTIER. Yes; that storage is something that can be used. It is like money, you can spend it now or you can spend a little of it every day.

Mr. WYVELL. From the engineering standpoint you see no reason why the fish laws can not be complied with and a fishway put in the power dam now as well as at any other time?

Mr. WHITTIER. There is no difficulty, unless they would have to build it over again later on.

Mr. WYVELL. You mean they would have to get the approval of somebody?

Mr. WHITTIER. If it is built now and the authorities come later on and say it must be built entirely differently, the money expended would be lost.

Mr. WYVELL. Is not that a matter to be determined by the fishery authorities of each country? Can not they direct you as to the building of these fishways?

Mr. WHITTIER. I see no reason why they can not.

Mr. WYVELL. I want to have it made plain that these fishways will be built right away.

Mr. WHITTIER. I understand that as soon as the fishery authorities decide on the kind of fishway they want it will be built right away.

Mr. POWELL. Mr. Wyvell was counsel representing the United States Government.

Mr. MILLS. Yes. Then the following appears at page 35 of the report:

Mr. WYVELL. Are you willing to hasten the construction of proper fish guards, so far as it is in your power?

Mr. HOSFORD. We are willing to act immediately on the decision of the two fishery boards that are interested; the moment they state they want a fishway, and tell us the kind, it will be built.

My contention, which I will take up a little later, is that Mr. Parsons, the Commissioner of Inland Fisheries and Game for the State of Maine, did act, but he acted in such a way that he has put himself completely out of court in connection with this application, because instead of requiring them to build a fishway at Grand Falls he has told them they need not do so.

Mr. POWELL. That he has entered into an agreement to obviate the building?

Mr. MILLS. Exactly, and he is out of court so far as this application is concerned.

Mr. CLARK. But does that relieve the situation? Suppose Mr. Parsons has acted in that way. Could any action of his set aside the law requiring a fishway to be built?

Mr. MILLS. I have been informed that the St. Croix Paper Company take the position that legally they can not be compelled by the State of Maine to install a fishway at Grand Falls by reason of the agreement they made with the fish commissioner. If that is so, and Mr. Parsons has made an agreement of that kind, which he has already admitted, then having caused a certain state of facts, he, I say, is out of court, as far as this application before the Commission is concerned.

Mr. POWELL. Mr. Mills, your remark might be splendid law so far as it applies to these parties intercedent, but how about the great body of the public for whom they were not authorized to speak? Could you control the rights of the public by agreement between two private parties?

Mr. MILLS. The farthest thing in my mind is to get into a legal discussion regarding the application, but I say Mr. Parsons is the applicant here and so far as his application is concerned he has placed himself out of court.

Mr. POWELL. He is hors de combat.

Mr. MILLS. Yes.

Mr. PARSONS. I say to the Commission that the State of Maine is not now asking for a fishway at Grand Falls and this application is not including the Grand Falls, but all other fishways on the river, especially these two fishways which are the key to the whole situation. The same situation was made at Grand Falls as was made at Sebago Lake, with the approval of everybody, that the State of Maine would not ask for a fishway at Grand Falls.

Mr. CLARK. Mr. Parsons, do your Maine laws provide that there must be fishways in these streams?

Mr. PARSONS. That is in the inland waters of the State of Maine?

Mr. CLARK. Yes.

Mr. PARSONS. In the inland waters of the State of Maine, if called for by the commissioner, they are required to build them.

Mr. CLARK. It is not mandatory, then?

Mr. PARSONS. It is not mandatory unless called for by the commissioner. The authority is placed in the hands of the commissioner after proper hearing, and if he orders fishways they have to be built, but this being international water, of course, it would be different.

I have a letter in my possession, which I can file with this Commission, from Mr. Found, one of the higher officials at Ottawa, stating that a fishway at Grand Falls was deemed impracticable; that it was too high; and also—the statement was made after a

thorough examination of the situation down here—that there were good spawning grounds at Grand Falls.

Mr. CLARK. You are not quoting the words of Mr. Found now?

Mr. PARSONS. No, but there were good spawning grounds below Grand Falls and it was not necessary to have a fishway at Grand Falls.

Mr. CALDER. Pardon me a moment.

Mr. PARSONS. This arrangement was simply made on the part of the State of Maine, not interfering with the commissioner or any suggestion that the commissioner had made, but the State of Maine would excuse them as far as they were concerned from building a fishway.

Mr. CALDER. I think I have a copy of the letter. You would not mind producing the letter?

Mr. PARSONS. I would like to see it if you have it here.

Mr. CALDER. I have not found it yet. I have a copy here. However, if you have the original, produce the original.

Mr. PARSONS. I have not the original with me.

Mr. MILLS. I want to quote from a few reports in regard to the question of pollution, sawdust, sewage and other different matters and in regard to the habits particularly of the salmon. I quote first from a report by Prof. E. E. Prince, Dominion Commissioner of Fisheries, 1898, published by the Government Printing Bureau, Ottawa, in 1899. At page 10 Professor Prince, in making his report, says:

The late Professor Spencer Baird, in 1871, very clearly laid down the principle referred to, saying:

“In all discussions and considerations in regard to the sea fisheries, one important principle should be borne in mind, and that is that every fish that spawns on or near the shores has a definite relationship to a certain area of sea bottom; or, in other words, that as far as we can judge from experiment and observation, every fish returns as nearly as possible to its own birthplace to exercise the function of reproduction, and continues to do so, year by year, during the whole of its existence. \* \* \* It is an established fact that salmon, alewives and shad, both young and old, have been caught on certain spawning beds, and after being properly marked and allowed to escape, have been found to reappear in successive years in the same locality.”

That is just simply covering the evidence that has been given here that they do actually return to the same river.

At page 33 Professor Prince says:

“When the schools of salmon reach the estuary of a river they may remain only a few days, or it may be several weeks, playing about, for the purpose of acclimatizing the fish to their new fresh-water conditions. To quote from a well-known authority: ‘It first proceeds at its leisure to the head of tide-water. Here it stops a while and seems to play about between the fresh and salt water. Whether it shrinks from encountering the sudden change from salt water to fresh, which is probably the cause of its dallying, or for other causes, it usually spends two weeks or more hovering about the border line between sea water and river water. When it has overcome its apparent

repugnance to making the change to fresh water, it makes a rapid charge up the river for the clear gravelly streams which its instinct or sixth sense tells it to seek.' It is also probable that the fish delay until a suitable temperature is reached. Curiously enough, when the schools have migrated some distance up the rivers, they will linger for long periods in pools, especially below falls and obstructions, during the time of the early runs of fish. Having attained the shallow areas suited for the 'redds,' in the upper waters, where proper conditions for depositing the spawn are provided, the pairing begins rarely earlier than the third or fourth week in October, and rarely later than the last week in November."

On page 35 he says:

Some doubt has been thrown upon the generally accepted theory that salmon return to their own rivers. Certainly, on the two famous Canadian rivers, the Restigouche and the Miramichi, anglers and practical fishermen have always held that, though the rivers are practically adjacent, the schools belonging to one river never enter the other; indeed, the difference in size and general appearance is such that the men on the river distinguish them at once. This may be said to apply to rivers generally, the salmon of St. John River are unlike those of the Saguenay or Godbout, and none of them are identical in general appearance and build with those native to the rivers around the Bay of Chaleurs.

Mr. POWELL. Is Professor Prince still living?

Mr. MILLS. Yes, sir. Now I wish to quote from a report issued by the Department of the Interior, United States Geological Survey, Charles D. Walcott, Director, on the effect of some industrial wastes on fishes, by M. C. Marsh, Assistant, Bureau of Fisheries, issued from the Government Printing Office, Washington, 1907. At pages 340 and 346 is given the result of some experiments with paper and pulp mill wastes.

*Spruce strips or shavings, partly bark.*—These are sliverings from the outer portion of the log and include both wood and bark.

Two hundred and fifty grams of the shavings, in 28 liters of water, with continuous aeration, was fatal to bass within 24 hours. Fifty grams was not fatal during 7 days, though the solution became very dark brown. A small constant flow of water prevents any fatal effect. Three hundred c. c. per minute passing through 2 kilograms of the shavings held in a 30-liter jar failed to kill bass during 7 days, the brown tinge of extracted bark disappearing from the effluent after the first day.

*Spruce bark.*—One hundred grams of the bark stripped or cut from the above-mentioned shavings, in 28 liters of water, in aeration, killed bass within 19 hours. Fifty grams failed to kill during 3 days. The woody portion of the shavings without the bark has no effect.

*Poplar chips and dust.*—When logs are prepared for digesting to pulp by cutting instead of grinding, the product of the cutter is screened. That which passes the screen is the dust referred to and the larger pieces the chips. The two portions differ only in the size of the pieces, the dust consisting of particles larger than coarse sawdust, while the chips are much larger. This material was from the mill at Luke, Md.

The aqueous extract from both chips and dust is fatal, the latter more rapidly so, since it extracts more readily. One kilogram killed 10 quinnat



salmon fry within 17 hours, the solution being colored slightly brown. Five hundred grams killed 2 out of 10 fry within 22 hours, 8 within 30 hours, and all within 50 hours. Three hundred grams of the dust, wrapped in cheesecloth, killed 10 fry within 22 hours, the water taking on a brown tinge within one-half hour. One hundred grams killed 10 fry between the third and fourth days.

Mr. POWELL. You see that is a question of ratio. How does the liter compare with a gram, for instance, so we may get some basis of comparison?

Mr. MILLS. A liter is 61.02 cubic inches, equivalent to 2.1 American pints. That is the quantity of water. A liter would be a little over two pints. When they take the kilogram, which is the French measure of weight, one thousand grams equal a little over two pounds avoirdupois.

Perhaps I can give you very quickly the first reference here. "One kilogram of the chips"—that would be about two pounds—"free and floating in 28 liters of water"—that is practically 58 pints of water—"with aeration, killed 10 quinnat salmon fry within 17 hours."

Mr. CLARK. That would be a very strong amount of the pollution in bulk, would it not?

Mr. MILLS. Then we will take 100 grams, which would be between 1/18 and a quarter of a pound, killed 10 fry between the third and fourth days.

At page 346, under the heading of "Sewage," in the same report, occurs the following:

Sewage from human habitations is fatal to fishes on account of the exhaustion of the dissolved oxygen caused by the luxuriant growth of aerobic bacteria. Ten liters from the Seventeenth Street canal in Washington killed bass and perch in less than 17 hours, when the sewage was not aerated. Another portion aerated artificially failed to kill during the 53 hours in which the fish were kept under observation. A sample from the James Creek canal, unaerated, killed perch and bass at the end of 16 hours. With aeration no deaths or distress occurred during 48 hours. In the unaerated samples the fish give evidence of suffocation, leaping about spasmodically and then sinking weakly to the bottom as if exhausted. Oxygen determinations after the death of the fish showed about 1 c. c. per liter, and a sample in which no fishes had been held contained scarcely more.

Referring to a further report by Prof. E. E. Prince in 1899, published by the Ottawa Government Printing Bureau in 1900, occurs the following:

Fishery legislation in different countries bears testimony to the importance universally attached to the evil effects of water pollution upon fish life. Clauses are, as a rule, found embodied in codes of fishery regulations, with the object of directly or indirectly preventing the poisoning and pollution of waters inhabited by fishes.

On page 8 Professor Prince says:

Briefly stated, pollutions, so far as rivers, lakes and tidal waters are concerned, may, in their nature and effects, be physically or mechanically deleterious, like sawdust or the mud and gravel resulting from hydraulic mining, or they may be chemically injurious, and in a larger or less degree poisonous, like lime, drugs, waste of dye works, pulp and paper mills, etc., or they may be physiologically deleterious but not toxic in the gravest sense, inducing unhealthy conditions in the fish, such as appears to result from putrescent matter, sewage, decaying animal and vegetable substances, etc. The Canadian Fisheries Act aims to include all these, and subjects to specified penalties every person who causes or knowingly permits to pass into or puts or knowingly permits to be put lime, chemical substances or drugs, poisonous matter, dead or decaying fish, or remnants thereof, mill rubbish or sawdust or any deleterious substance, in any water frequented by any of the kinds of fish mentioned in the Act, Chap. 95, 1886, s. 15, ss. 2, amended by Chap. 51, 57-58 Vict., s. 6.

It is not necessary to prove the deadly character of the polluting substances. The provision does not, however, apply if it can be shown that the fish inhabiting polluted waters, are of inferior kinds, not mentioned in the Act or regulations under it. Thus, injury to eels or fresh-waterling is not included, but the prohibition applies in waters inhabited by salmon, trout, etc., and it is interesting to note that it embraces the triple division of injurious substances, to which I have alluded, for lime, chemical substances and drugs belong to the essentially toxic or poisonous group, sawdust is really a physically deleterious agent, and the other undesirable substances may be said to include pollution which affect fish life in ways differing from those directly destructive to life, or physically noxious and morbid in effect.

The experiments of Mr. A. Hansen, on the Norwegian River Soli, in 1872, prove that unfavorable conditions in the lower waters are of far less moment than they are in the shallow headwaters, as Prof. Rasch has pointed out in his paper entitled "Is sawdust an obstacle to the ascent of fish?" The estuaries of certain rivers on this continent are polluted with sawmill waste, etc., yet the injury done does not compare with that which would follow the pouring of sawdust, edgings, etc., from the mills into the upper waters. Such waste would cover the spawning areas, where the eggs are deposited and where the fry pass their first days.

On page 9 Prof. Prince says:

Taking up the question of water pollution as produced by agents which are essentially physical or mechanical in their effects, and which do not in any degree, or in a very small degree, act as chemical poisons, or as physiologically harmful, it is doubtful to what precise extent such physical agents, say, suspended particles of sawdust, or gravel, injuriously affect fishes in the adult condition. It is true a widespread impression prevails that such suspended foreign matters are most harmful. This impression has little accurate or scientific basis, but it has been stated and restated with the utmost confidence. Thus in a report of this department published in 1889, Part II, page 12, the following emphatic expression of opinion appeared:

"The poisonous effects of sawdust, when allowed to pass into rivers and streams, are so manifold and self-evident to the rational or practical observer, that it would appear almost needless, in the present enlightened state

of the world, to require any special pleas or argument to convince even the most sceptical person of its disastrous workings upon all aquatic life, of an animal or vegetable character, found in the tidal, lacustrine or fluvial waters of any country. Wherever mill dams have been built across streams, and where sawdust, mill rubbish and other deleterious substances have been cast into the water from sawmills, and other manufactories fish life and vegetation of all kinds have been greatly lessened, and in many instances wholly destroyed. This is particularly noticeable amongst the higher order of fishes, especially the salmon family, which are largely of a migratory nature, many of them ascending river and other streams for breeding purposes. These waters are usually of the purest, coldest and most limpid description, and therefore best adapted for the propagation of the salmon species. These fish at the time of the first settlements of Canada were found frequenting almost every river and stream emptying into the sea, and the great lakes also. So plentiful were they in many of our waters, before the lumbering industry took such a strong hold in the erection of dams and sawmills, with the consequent injurious effects from them upon fish life that fish of all kinds were in great abundance. They were freely used by the inhabitants generally for domestic purposes, and also produced a large amount of traffic and commercial wealth for the country. But as the sawmills and milldams increased in numbers with greater capacity for their work, the milldams formed impassable barriers to the ascent of salmon and other fishes to their natural spawning grounds above—and then the hurtful and pernicious effects arising from the sawdust and mill rubbish being constantly cast into the streams poisoned the spawning beds below, and stayed the growth of all vegetation, thus driving away insect life.

Sawdust, as previously stated, is manifold in its range of destruction when allowed to be cast into waters to which fish are indigenous or where animal or vegetable life is to be sustained. It is an artificial product, alien to and engendering latent diseases of various kinds, with fatal results in all waters where fish exists."

**Mr. CLARK.** Is that the opinion of the author that you have just been reading?

**Mr. MILLS.** I have noted several other extracts here. The opinion of this author is that sawdust in the lower stretches of a river does not prevent the adult salmon from trying to get to the higher waters, but other rubbish does kill and destroy the fry and the spawn.

**Mr. CLARK.** That is substantially Colonel Whidden's statement.

**Mr. MILLS.** Perhaps going a little further than the Colonel's statement. Colonel Whidden made no reference to edgings or bark or grindings, but so far as sawdust alone is concerned in the lower water I think the adult salmon will get by. There are other references along the same line. I quote again from Professor Prince's report, page 12, as follows:

And the late Frank Buckland, in some notes in which he bitterly opposed the pollution of rivers wrote:

"How very important, then, is it to keep pollutions out of salmon rivers; they may not be actually strong enough to poison or kill the fish, yet it is very likely they will deter many from ascending the river."

An illustration of the alleged far-reaching effect of sawdust pollution may be found in the Bay of Fundy. In the vast upper stretches of this bay immense schools of "Fall" shad resorted in August to feed. The food, it was generally thought consisted of annelids or shad-worms. In recent years the shad have fallen off so seriously that the fishery is of little account compared with its former extent and value. Sawdust, it is claimed, floating out of the mouths of New Brunswick and Nova Scotia rivers, has been deposited by the tides upon the feeding grounds, and the shad-worms or food of the shad has been destroyed. This may or may not be the case, though I have seen the surface of the sea in the Bay of Fundy covered for many miles with floating sawdust; but it must also be remembered that overfishing in the rivers in spring, when the shad are ascending to spawn, the stoppage of their ascent by dams, etc., must have had some effect, while the ruthless slaughter of emaciated and weak specimens in their descent after spawning has no doubt had much to do with their decimation.

Chemical pollutions are so varied and complicated, and their evil effects, though admittedly evil, are so diverse that they can not be dealt with here as briefly as purely physical impurities. Examples could be cited almost without number of the deadly and disastrous effects of deposits of waste chemical substances in rivers. All the rivers in the great manufacturing districts in England and the United States once abounded with excellent fish, but they were used as mere drains for the reception of foul refuse of every description, and these waters were so loaded with offensive and poisonous matter that all fish life has practically disappeared.

The corporation of Newcastle-on-Tyne some years ago poisoned Byker Burn by using a disinfectant of which caustic soda was a principal component. A flood in July carried some of the poisoned water into the Tyne, and for eleven miles every kind of fish was found floating dead or in what was called a "fuddled" or intoxicated condition. Caustic soda or soda leys is used in many industries, very largely for the purpose of dissolving resinous matters in grass and wood fibers. The dark-coloured fluid (soda and lime) which results is highly poisonous to fish and settles as a deadly putrescent sediment unless swept away by swift currents. If the fish survive, their quality, flavour and colour appear to be transformed. Indeed Mr. Harvie Brown has pointed out that they become utterly unfit for food.

Thus in paper-making soda ash or caustic soda is largely used, resulting in a waste fluid of a dark brown hue charged with soda and lime and a certain amount of fibrous and resinous matter. This heavy fluid is harmful both chemically and physically, for it is poisonous, and of a nature so adherent that it lodges in and clings to the gills of fishes. Chloride of lime is also poured out from paper works, where white papers are made, calcium chloride being the bleaching agent used, while colouring matters are added to the waste in factories where blue and tinted papers are made. In recent years many other substances, china clay and mineral matters are mixed with paper pulp, all of which render still more injurious the waste fluid poured into the rivers.

On page 20 Professor Prince says:

The manufacture of wood-pulp has attained, in recent years, vast proportions in Canada, and is likely to develop to an extent so enormously increased, in the future, that the effect of the waste matters resulting from such manufacture is of vital concern. In the first place the floating of pulp-wood, which consists of short lengths of very small lumber, is stated to be in many respects more injurious than the great "sticks" or trunks of large trees which

have been hitherto mainly conveyed along Canadian water-courses. The friction of the lengths of pulp-wood, it is said, tears off the epidermis, the corky bark and the fibrous bast tissue, leaving an offensive deposit in the beds of rivers. The trees being small, comparatively young, and of various species containing more sap and slimy matter than older mature wood of larger growth, there may be increased danger to the fisheries from the development of the pulp industry in this aspect of the matter. The towing and floating of large saw logs down rivers and over famous fishing grounds in the great lakes has long been a source of complaint amongst Canadian fishermen. These logs, some of huge dimensions, often remained for months in the water, and a large amount of organic matter must have been extracted and permeated the adjacent water. In some cases, especially in the case of hemlock, these pollutions are poisonous in the extreme, and certainly the bark and slimy fibrous débris, scraped off the "sticks" in their voyage on the water, must be regarded as seriously injurious. The International Commissioners referred to this in the Report in 1896, saying:

"Among the minor causes to which we may attribute the failure in the whitefish and trout is the deposition of bark from the rafts of saw logs which are constantly being towed across the bay and north channel from some of the larger rivers, especially French River and Spanish River, to the milling ports on the Michigan side of Lake Huron. The grinding of the logs against each other in the booms sets free the fine inner bark which settles on the bottom, forming a thick covering. When this happens to occur on the spawning or feeding grounds of the fish there can be no doubt that a serious injury is caused.

"Some of the inshore spawning grounds are said to have suffered from the sawdust and other mill refuse which has been carried down the streams from the mills; but little injury can have been done in this way, as many of the spawning grounds are offshore or remote from the neighborhood of the mills, and of late years the regulation prohibiting the letting adrift of this refuse has been well observed."

I will read further from Professor Prince's report, at page 23, as follows:

Perhaps the most widespread, and to the general public the most apparent cause of river pollution is that due to sewage. Cities have from time immemorial regarded rivers as the appropriate channels for conveying away those offensive kinds of waste matters incident to the congregating of large communities. In what precise way sewage affects fish has never been accurately determined; but its injurious effect is a matter of universal opinion. Thus the Canadian fishermen of Detroit River five or six years ago complained of the amount of sewage poured into that river by the city of Detroit. This sewage and offensive garbage not only polluted the water; but was deposited, when west and south winds prevailed, upon the Ontario shore. "Since this garbage has been coming ashore" said the fishermen, "the catch of fish in our nets has been materially diminishing and, if the same continues, the business will be ruined. The presence of the said garbage drives away the fish and renders our fishing privileges useless." It is not claimed that the fish were actually poisoned and killed; but that they were driven away to other localities. Some authorities who attribute to the sense of smell the action of fishes in forsaking sewage-polluted water, take the above view, and regard sewage as a deterrent more than a direct poisonous agent. This no doubt was the view of Mr. J. A. Harvie-

Brown of Dunipace, Scotland, in regard to the Carron when he stated to the Scottish Fishery Board that salmon and migratory trout will not face pollution.

From Professor Prince's report at page 24:

I notice in a report of H. M. Inspector of Fisheries for England and Wales, that sewage pollution in a case reported upon had, it was claimed, caused the death of fish. The authority mentioned says in his report in 1892:

"Early last year I received particulars of a large 'Fordwich trout,' said to have weighed 26 lbs., which had been picked up dead in the River Stour, near Canterbury. The Conservators of this District have, however, apparently given up as hopeless the task of protecting the river in consequence of the evil effects of the sewage of the city of Canterbury."

From Professor Prince's report, at page 25:

There may be cases where the erection of milldams and pollution by poisonous waste products is of more moment than the destruction of the fisheries in a particular river. The utilitarian motive may be overwhelming, and valuable industries on a large scale may, in some cases, outweigh fishery interests and considerations.

In a local journal it was stated that "the fine mills of Springfield and Belmont, which are owned by Mr. Archibald Coulahan, are to be closed shortly. The owner is taking this course in consequence of the Fishery Conservators compelling him to do work in the way of putting up gratings, which he considers both unnecessary and impracticable. There is great regret felt in the neighborhood that those mills—which cost some 50,000 pounds—should be closed, as many hands will be put out of employment. It seems a great pity that the rival interests of fishery owners vs. mill owners should be allowed to clash in this way."

Mr. POWELL. In respect to the fry—I am not a fishery expert, but I have been brought in contact with them in law cases—I think the Dominion representative and Mr. Parsons are perfectly familiar with this fact, that in the preservation of the fry in the hatcheries they have to be very particular, indeed. They are very sensitive. You have to be particular with respect to the temperature at which you keep them and very particular with respect to the purity of the water in which the fry float. They are particularly sensitive, are they not, to poisonous and deleterious substances?

Mr. PARSONS. That is true.

Mr. MILLS. And also you must be very particular as to the container itself and the material of which it is made.

There is one other reference that I wish to make. It is taken from the annual report of the Department of Marine and Fisheries, Fisheries Branch, further contributions to Canadian biology, being studied from the Marine Biological Station of Canada, 1902-1905, Printed by the King's Printer, Ottawa, 1907.

From page 37:

The Deputy Fish Commissioner for Ontario, Mr. S. T. Bastedo, held views the very opposite of these expressed by Professor Prince. In his annual

report for 1899, Mr. Bastedo says: "There can be nothing more destructive to fish life than the depositing of sawdust in the rivers and lakes."

Mr. CLARK. That short statement would not necessarily contradict Professor Prince. There is no necessary conflict between the two.

Mr. MILLS. It does if the report is read further.

Mr. CLARK. Because Professor Prince indicates that it is destructive to the fry?

Mr. MILLS. I am coming to what are set out here as the conclusions, and I think this gives it very fairly as far as everything is concerned. From page 38 I read as follows:

In the second part of the Report of the United States Commissioner of Fish and Fisheries, 1872-73, Mr. James W. Milner gives the result of his observations on the great lakes. Speaking of Green Bay, he says that whitefish were formerly taken in abundance in the spawning season in a number of rivers emptying into this bay; but sawmills are numerous at present on all of these streams, and the great amount of sawdust in the rivers has caused the whitefish to leave them. The effect of the sawdust, he states, is to cover up the spawning grounds and destroy the food of the fish. Watson, in the third part of the same report, charges the sawdust with the destruction of the purity and aerated condition of the water, so changing its character as to revolt the cleanly habits of the salmon. He mentions the experience of Mr. Arnold, who had seen the gills of salmon filled with sawdust. Mr. Mather, in Transactions American Fishcultural Association, 1882, and in these columns of the same year, thinks that sawdust is destructive to the young by covering up the spawning grounds, and by polluting the water with turpentine from the pine and tannin from oak.

Mr. J. J. Brown, of Ludington, Mich., in Bulletin V, United States Fish Commission, charges the sawdust and shingle shavings dumped into Lake Michigan with the annihilation of the feeding grounds of fish. The statements of Sportsman and Livingston Stone in recent numbers of this paper, are very positive as to the deleterious influence of sawdust in polluting the water, killing the young and promoting the growth of fungus. Mr. Stone believes that after the spawning grounds are covered with sawdust the stream can produce no more trout.

Charles G. Atkins, in Part II, Report of United States Fish Commission, speaks of the Penobscot River. He finds that sawdust has interfered with the success of certain fishing stations, but the salmon are not prevented from ascending to their spawning beds, which are free from obstruction and seem to suffer no injury from the refuse.

Professor H. Rasch, an eminent authority in Norway, communicated his views on the sawdust question to the Norwegian Hunting and Fishing Association in 1873. He admits that rivers on which there is considerable cutting of timber gradually become more and more destitute of salmon, but thinks that the injury is not to the fish directly, but is caused by limiting and partially destroying the spawning grounds.

From the foregoing survey it will be evident that there are two sides to the question as to the influence of sawdust in streams and lakes, and it may be possible that some of the States which have legislated against the deposit of this substance in certain waters have placed unnecessary restrictions upon an important industry. Unless spawning grounds are actually covered and feeding grounds destroyed, there would seem to be no case against the saw-

dust. At all events, the instigators of this legislation should produce evidence of deleterious effects to be remedied by legal enactments, and show that such pollution is necessarily and always fatal, and can not be mitigated by measures to aid the ascent to the spawning beds.

From page 53 I read as follows:

1. Strong sawdust solutions such as occur at the bottom of an aquarium, poison adult fish and fish fry, through the agency of compounds dissolved out of the wood cells.

2. The overlying water in such an aquarium does not at first kill fish. After about a week it does kill, but solely through suffocation, the dissolved oxygen having all been used up.

3. Bacteria multiply enormously throughout all parts of such an aquarium, and through oxidation change the poisonous extracts to harmless compounds. Mosquito larvæ live on the bacteria. No doubt, in natural pools, other aquatic insect larvæ live on bacteria also.

4. Subsequent aeration and sedimentation of sawdust water purify it, so that fish can live in it without injury.

5. Since adult fish and black bass fry both refused to be driven into pine extracts in the bottom of an aquarium after they had experienced its poisonous effects, we may infer that fish would desert a river much polluted with freshly made sawdust, going downstream and into tributaries to escape from the disagreeable influence of the sawdust extracts.

6. Further observations and studies along sawdust polluted streams and rivers in Canada are urgently needed before more definite conclusions can be reached. My own observations on the Bonnechere are not sufficient to enable me to form any conclusion that would be applicable to other rivers. In this connection I should like to quote Professor Prince again: "Circumstances modify the effects of all forms of pollutions, so that waste matters which would be deadly in one river will pass away and prove of little harm in another, where the conditions are different."

There are one or two other references showing that the salmon tend to go to the head of the streams, just as Colonel Whidden states.

Mr. POWELL. I think we can accept that as proving that the tendency of the fish is to rush to the headwaters of the stream for purposes of propagation.

Mr. MILLS. Now, getting back to the respondents case: we submit, as I stated before, just to summarize very briefly, that for the past seventeen or eighteen years the fishery on the St. Croix has been practically negligible; that the quantities caught since 1906 have been very small, and that the fishery as a fishery is practically non-existent.

If we are wrong in that, that brings us to our second statement, that the applicant is out of court by reason of his agreement with the St. Croix Paper Company, by which the St. Croix Paper Company is not compelled to put in a fishway at Grand Falls, that it would be absolutely useless to install fishways at the present time in the dam at Union and in the dam at Salmon Falls, the Canadian Cottons dam, by reason of the fact that the fish are



unable to get up over the fishway which is in at Woodland, and by reason of the further fact that if they were able to get over that, it is impossible to get up to the spawning grounds where they have always gone because they can not get up over Grand Falls dam; consequently, it would be an absolute injustice to compel us to put in fishways which would be of no benefit to the fishery.

I desire to call a few witnesses who have had some experience on the river, and the first witness I would call would be Mr. Frank C. Murchie.

Mr. PARSONS. If the Commission would allow, I would have appear on the record in support of my statement a carbon copy of the letter which I received from Mr. W. A. Found. The letter is dated November 3, 1921, before this arrangement was made with the St. Croix Paper Company, that no fishway need be put in there if a screen was built at Grand Lake, which is some fifteen or sixteen miles from the boundary line but in the interior waters of Maine. Now, without putting the whole letter in, the portion that I wish to read is this:

According to this department's information the St. Croix River is obstructed by eight dams in the first twenty-five miles of its course, two of which, the Woodland and the Grand Falls dams, are upwards of forty feet in height. A fishway has existed in the Woodland dam for a number of years, the efficiency of which has been questionable so far as this department's information goes. Indeed, it may be said that this department is unaware of a successful fishway in operation in a dam of that height.

After receiving that letter this arrangement was entered into with the St. Croix Paper Company.

Mr. MILLS. May I be allowed to read two further paragraphs of the same letter? The letter continues:

The policy adopted has been to build fishways in dams of height less than at Woodland, and if these are found to be effective, to use information obtained by such experience in designing fishways for dams of greater height. Last year a fishway was built in a 30-foot dam in Nova Scotia, and it was demonstrated this year that it would successfully pass both salmon and alewives.

In line with the above policy it was the intention in the case of the St. Croix River, which is an international water, to propose a conference of the officials of the State of Maine fisheries and the fisheries engineer of this department in order that advantage might be taken of the experience of all concerned, and in the hope that efficient fishways in all dams not so provided might be devised. The season is now too advanced for such a conference, as water conditions will no doubt be such that observations and surveys in the river would be matters of some difficulty. If possible at all this department would, however, be very glad to carry it out next summer and would appreciate an expression of your views in the premises.

They simply asked for a conference the next year.

Mr. CALDER. Mr. Chairman, I did not intend to take any part in the discussion to-day, but the developments have been such that it is quite

necessary that I should do so. That letter was written in November, 1921. I have a copy of another letter. This is a carbon copy of a letter from Mr. Found, Assistant Deputy Minister of Fisheries at Ottawa, addressed to Mr. Fisher, Chief Inspector of Fishways, Nova Scotia.

Mr. PARSONS. If the Commission please, that is not a letter addressed to me, nor one that I have ever seen.

Mr. CALDER. No; it is addressed to Mr. Fisher.

Mr. PARSONS. It is not correspondence between the Dominion of Canada and myself.

Mr. CLARK. What is the purpose of this letter?

Mr. CALDER. The purpose of this letter was to establish——

Mr. CLARK. No; I mean what is the purpose of your introducing this letter.

Mr. CALDER. It was to establish this: Mr. Parsons read a letter from Mr. Found, stating that he was very doubtful of the efficiency of a fishway in the Grand Falls dam, and I wanted to read another letter from Mr. Found establishing this beyond peradventure, that notwithstanding any agreement Mr. Parsons may have entered into with the St. Croix Pulp and Paper Company, our department did not recede from the position that they were required under the Dominion law to install a fishway in the dam. There is no dispute about that, as Mr. Powell says.

But the further point I want to establish is this: The Dominion Government, the Department of Marine and Fisheries, has no jurisdiction to establish a fishway in the State of Maine. We have no authority to establish a fishway on the State of Maine side of the dam. Now, when the dam was built at Grand Falls, when the canal was dug and the power plant established, the State of Maine officials who were there—I think Mr. Perkins was there—decided at that time—perhaps quite properly so—that the proper place for a fishway would be down through the canal; that that would be the most feasible and practicable place for the reason that from the Grand Falls dam——

Mr. PARSONS. Was that at the conference we had in 1922?

Mr. CALDER. Yes, sir; I am going back to the erection of the dam, and I want to establish the fact that from the dam down to the power plant there is a stretch of river three-quarters of a mile long that is bad.

Mr. CLARK. How far do you say that is? How far is it, Mr. Stewart?

Mr. STEWART. Twenty-seven hundred feet.

Mr. CALDER. Now, such being the case, practically the only water you would have in that stretch from the dam down to the tail race would be the small amount of water which went through your fish-

way. If you spread that water over a wide river bed you would have very little water for the fish to negotiate in. Furthermore, it is quite likely that that water would become so warm that the fish would not go up it even if there were sufficient water for them to swim in. The point I want to establish is this, that if the State of Maine entered into an agreement with the Pulp & Paper Company under which they are not to build a fishway on the State of Maine side or at the canal, and if it is the only feasible place or position that we can legally require them to put in a fishway, it is nullified because we can only require them to put in a fishway at a place which would be no good and serve no useful purpose.

Mr. POWELL. Mr. Mills, do you want to call your witness now?

Mr. PARSONS. I would like to ask Mr. Calder a question. Mr. Calder, who was present at the conference which we had on the dams in 1922 besides Mr. Bruce, the engineer, Mr. Harrison and yourself?

Mr. CALDER. It was not Mr. Harrison; it was Mr. Fisher and myself.

Mr. PARSONS. So we did have a conference, as suggested in Mr. Found's letter, in 1922?

Mr. CALDER. Yes.

Mr. MILLS. But you did not come to any agreement.

Mr. CALDER. Nothing in regard to Grand Falls. The conference was with respect to these two lower fishways, and as a result of that conference our engineer approved of the plan of those fishways without our department taking any action in the matter, and our department refused to take action in the matter for the reason that Mr. Parsons had arranged that there was not to be a fishway on the American side of the Grand Falls dam.

Mr. PARSONS. At that time?

Mr. CALDER. Yes, sir.

Mr. PARSONS. Not at all. It was long after that conference.

Mr. CALDER. Not in June, 1922? I beg your pardon, sir.

Mr. CLARK. I do not think we will get very far if we have these dissertations going on. But we will consider that Mr. Parsons' remark was not made and he can present his side of the case later.

FRANK C. MURCHIE was produced as a witness on behalf of the respondents, and, after being first duly sworn, testified as follows:

Mr. MILLS. Your name is Frank C. Murchie?

Mr. MURCHIE. Yes, sir.

Mr. MILLS. You reside where?

Mr. MURCHIE. Milltown, New Brunswick.

Mr. MILLS. How old are you, Mr. Murchie?

Mr. MURCHIE. I was born in '72. I am 51.

Mr. MILLS. You have lived in Milltown all your life?

Mr. MURCHIE. All my life.

Mr. MILLS. And your father's firm and the firm of which you are a member yourself was engaged in the lumbering business in St. Croix ever since lumbering was commenced?

Mr. MURCHIE. As far as I know.

Mr. MILLS. And you have operated a sawmill yourself on the St. Croix River, have you not?

Mr. MURCHIE. Yes, sir.

Mr. MILLS. In addition to being in the lumber business you were a fishery officer, were you not?

Mr. MURCHIE. Yes, sir.

Mr. MILLS. During what years?

Mr. MURCHIE. I was overseer in the fisheries in the years 1911 to 1915, both inclusive.

Mr. MILLS. Is it not true that the reason you were a fishery officer was simply because you personally took an interest in the fisheries on the St. Croix River?

Mr. MURCHIE. It is.

Mr. MILLS. You have fished for salmon with rod and fly on the River St. Croix?

Mr. MURCHIE. Yes, sir.

Mr. MILLS. Will you state to the Commission briefly your experience within the last twenty years fishing for salmon on the St. Croix at either the Union pool or below Salmon Falls.

Mr. MURCHIE. My first experience in salmon fishing at the Union pool would be along in 1889, and from that time on for a number of years, say, eight to ten years, there were a lot of salmon there, a great quantity of them, and I at that time would catch a few salmon every year because I was not an expert and not always landing all the fish that I would hook. But at the pool there were a great many salmon. I remember very well that when the tide would come up—that is the time that you do not cast for the fish; they do not take the fly—I have seen them rolling out in the pool so plentiful we would push a boat out that we fished in and try to hook them with the gaff. They were very plentiful at that time.

Mr. CLARK. That was in the eighties?

Mr. MURCHIE. That was previous to 1905, say, from 1900 to 1905, along about that period. I think I, myself, caught possibly from five to ten salmon a year. I have taken them on the fly at that time when I would be fishing. Others were taking many more than I was at that time out of that same pool. I continued fishing from that on, and the fish being not so plentiful we would occasionally get a fish. I think the last fish I took out of the pool was in 1913 or 1914, about the time the war broke out. During the time of the

war I fished the pool as often as two or three times every year up until this year. This year I fished the pool four different times. In 1921 I did not fish it; I was sick that season and was unable to fish, but I have not been able to take a fish on the fly since, nor have I had a rise.

Mr. CLARK. To what do you attribute the absence of the fish since 1905?

Mr. MURCHIE. At that time, in talking it over with the others who were fishing, we commonly felt it was owing to the fish not having an opportunity to go along up the river to spawn, and the warden that had been on there for many years, old man Glass, had spoken to me about the river having a very rocky bottom at the pool, and owing to the sediment, etc., that had come down and had sunken there. We thought it was owing to the impurities above from the paper mill and not having an opportunity to go up through the Grand Falls dam. I never considered the Union one because I knew there was a fishway there.

Mr. CLARK. Was there a fishway in the lower dam at that time?

Mr. MURCHIE. Yes; there was a fishway in the Union dam and a fishway in the cotton mill dam.

Mr. CLARK. Both of them were available at that time?

Mr. MURCHIE. Both of them were available.

Mr. MILLS. Until 1919 or 1920.

Mr. MURCHIE. In 1912 I think the fishway at the cotton mill was sort of out of repair and the Government submitted plans to Mr. Calder, who was inspector of fisheries, and he came up to me and we looked the plans over and went to Mr. Graham, the manager of the Canadian Cottons Company, and presented the plans to him at that time. He said that he would have that fishway erected, a new one. It was a fishway of considerable length, run off at right angles, in sections like. He had it erected in the dam at that time on the recommendation of the Government. I think that was in 1912 or 1913.

Mr. GRAHAM. It was not made until 1911.

Mr. MURCHIE. It was after I was appointed.

Mr. GRAHAM. It was just on your appointment.

Mr. CALDER. Yes; it was just on your appointment.

Mr. MURCHIE. Early in 1911 was when that was put in there. So there is a good fishway in that dam. At the same time there was a natural run on what I call the American shore there, the place that has been spoken of before here to-day. At the Union, although there is a fishway there, at high tide I have seen salmon come along and jump up on the roll and lie there and then continue above. I have never seen any fish in the Union fishway because there was always so much water in the fishway that it would be practically

impossible. I do not see how a man could see a fish in there. There is a depth of at least five feet of water and the fish in it go from one pocket to the other. Some thought they jumped over those pockets, but they do not; they go around the end into the resting place in the nest.

Mr. MILLS. The last fish you killed there in the Union pool was in 1914, was it not?

Mr. MURCHIE. In 1913 or 1914 was the last one I remember.

Mr. MILLS. Do you know where the Mohannes stream is?

Mr. MURCHIE. Yes.

Mr. MILLS. Did you ever have any experience putting spawn or fry in the Mohannes stream when you were fishery officer?

Mr. MURCHIE. Yes.

Mr. MILLS. Will you state that to the Commission, please.

Mr. MURCHIE. I applied to Mr. Calder for some fry for the waters here and, if I remember correctly, he had 500,000 or a million fry sent here. I had Mr. Joe Hicks and Mr. James Topley, who were the wardens on the river at that time, divide the fry. We had 250,000 put in the Mohannes stream way above the Little Ridge Road. Not speaking accurately, that would be about seven miles from the mouth of the stream up to above Little Ridge Road. We put 250,000 in there and the remaining 250,000 in Dennis stream. You have been speaking of Dennis stream. This is Dennis stream. The other is Dennysville River just below us here.

The next year some of the fellows came in and told me they were catching some little salmon out there in the stream with a hook and worms, and I went out and took two or three of the small salmon. If I remember correctly, I either showed them to Mr. Calder or told him about them. You remember that, do you not, Mr. Calder?

Mr. CALDER. I think you told me about them.

Mr. MURCHIE. The next year I went and never got any signs. Apparently they disappeared and never returned, and I have never seen any result of them in the river.

We put them up there as far as we did in Mohannes stream for the St. Croix up a mile and a half is nothing but mud, meadows. Then there are rips that continue a short distance, then another long level of meadow, and then more rips. We put them above the second rips because this lowland is full of pickerel and we wanted to go above the pickerel to get the fry in so they would not be taken. Whether they came down and went to sea and died there, I do not know.

Mr. MILLS. But your observation and what you heard is that they never came back into the Mohannes again?

Mr. MURCHIE. Yes, sir.

Mr. MILLS. When you were fishery officer did you ever go up and examine the fishway at Woodland?

Mr. MURCHIE. Yes, sir.

Mr. MILLS. For what purpose?

Mr. MURCHIE. I had no authority; it was mere curiosity. We were doing all we could on the Canadian side to protect the fish and I had been informed that the fishway up there was not open; that they closed it down and there was not even water going through it. Occasionally I would go up there and go out on the fishway and look at it to see if there was water going through it.

Mr. MILLS. Did you ever see any salmon going up it?

Mr. MURCHIE. Never.

Mr. MILLS. Were you there more than once during the time of year that salmon would naturally be going up?

Mr. MURCHIE. Yes, sir.

Mr. CLARK. Was water running in the fishway then all right?

Mr. MURCHIE. A small quantity. Once I saw it dry. On several occasions there would be from six inches to possibly a foot of water in it, not more.

Mr. CLARK. Is that sufficient water for the ascent of the fish?

Mr. MURCHIE. Not according to my opinion, nothing like sufficient.

Mr. CLARK. Then, according to your opinion, the fishway was not sufficient?

Mr. MURCHIE. The fishway was all right, but the quantity of water going through it was not sufficient.

Mr. CLARK. The fishway and the water must be combined. It was insufficient, then, for the purpose for which it was constructed, in your judgment?

Mr. MURCHIE. In my judgment, yes, sir.

Mr. MILLS. About what year would that be?

Mr. MURCHIE. That would be in the year 1911 or 1912.

Mr. MILLS. Did you ever send any officers up there also to examine the fishway?

Mr. MURCHIE. Well, I either sent them or went along with them.

Mr. MILLS. Did any of the other fishery officers report ever seeing any salmon going up that fishway?

Mr. MURCHIE. Never. They told me they had never seen any.

Mr. MILLS. What do you know of the condition of the river between Woodland and, say, the cotton mill dam as to refuse since the time the paper mill was built? Can you state anything to the Commission regarding that?

Mr. MURCHIE. Well, I can not state the year, but I know that before the paper mill was erected—would that be sufficient?

Mr. MILLS. Yes; before that.

Mr. MURCHIE. There is a bay in the St. Croix River known as Baring Bay. That would be where the Mohannes stream empties in.

Mr. MILLS. And a few miles below Woodland?

Mr. MURCHIE. About six miles, I would say, roughly speaking, below Woodland. That bay was the holding ground of all logs that came down to Milltown to be manufactured into lumber. All the logs came down there loose. They would be sorted there for the different mill owners and rafted, and that bay held the logs. At times there would be five, six or seven million logs in there at a time, and the water was sufficiently deep; that is from twelve to fourteen feet of water in Baring Bay.

The last year that I had anything to do with the sawmills at Milltown was in the year 1917, and when I used to go along there the logs would not be coming fast enough and Baring Bay was, in August, almost dry, just a little channel through it, and, according to my judgment, that had filled up wholly from fine pulp condition that had been ground above and had floated down there and had formed a crust. That pulp floats down and if held in check by the logs it will form a crust possibly as deep as that [illustrating]. Staying there a little time, that apparently becomes water-soaked like a blotter and sinks, goes down to the bottom. That seems to be what has filled it up.

Mr. POWELL. That is the waste from the screens?

Mr. MURCHIE. Yes; something too fine to be held.

Mr. MILLS. That is some of the material [exhibiting a specimen].

Mr. MURCHIE. That is the material. That is so fine that it can not be held. That is finer than dust. After it is dried out that is what it is. On the meadows where the water flows out the grass all becomes covered with it.

Mr. POWELL. Is that by the sulphide process or soda?

Mr. MURCHIE. Both.

Mr. CLARK. You say this solidifies and sinks to the bottom?

Mr. MURCHIE. Yes, sir; I would say so.

Mr. CLARK. And it lessens the depth of water?

Mr. MURCHIE. It has practically made a dry bay of it. Above Baring Bay the same formation comes down there and has filled up.

Mr. POWELL. That is the general deposit over the bed of the bay?

Mr. MURCHIE. Yes, sir. That will dry on grass, ground or rock. You can scrape just as hard as you will and it would be almost impossible to take it off without a metallic instrument.

Mr. MILLS. It kills the grass?

Mr. MURCHIE. I would not say that. It looks like a cobweb on the grass and when the sun comes out and dries it it kills the grass; so much so that people who have farms between Baring and Woodland have tried to collect damages.

Mr. MILLS. Prior to the time when the pulp and paper mill was established at Woodland, did the men working in the mill use any-



thing on their hands when handling the logs or taking them under water?

Mr. MURCHIE. When we were running the mill years ago the men used to get cut at a planer or rotary, and they would have a bad cut and get over it; but from personal experience around the mill in the latter years there was hardly a man in the sawmill that handled lumber without using gloves. It may have been to preserve their hands, or for other purposes; but it seemed that if they got a sliver off a log or a cut, their hands would become infected. If a man got his hand cut in a cotton mill it would get well, but if he got his hand cut in a sawmill it seemed as though it was a case of blood poisoning.

Mr. MILLS. That means a man who is handling logs that come under water?

Mr. MURCHIE. Yes; those logs are all wet when they come into the wheel.

Mr. POWELL. The canters, I suppose?

Mr. MURCHIE. Any of the men handling them.

Mr. CLARK. Is that use of the gloves in the mill general or just at this point where the pollution is supposed to come?

Mr. MURCHIE. They said they had to use them on account of poisonous substance that infected their hands.

Mr. POWELL. The Senator is asking if this is exceptional, or whether they wear gloves with which to handle logs in mills generally?

Mr. MURCHIE. I can only answer with respect to the St. Croix River here. I do not know that I ever noticed any others.

Mr. MILLS. Is there anything further you know about the salmon fishery on the St. Croix that you think would be of interest to the Commission?

Mr. MURCHIE. I do not know as a witness, but as a person interested in the fishery—and I certainly do enjoy and like to see good fishing—I would say this: I have heard all that has been said regarding the case, and speaking of the spawning ground from Woodland down to what you call Dam No. 2, I can not see a possibility of any spawning ground. I am referring to below Woodland. The reason I would give is this: We have in the St. Croix River what they call two drives of logs a year. In the past there would be from fifteen to twenty-five million logs coming down below Woodland. Those logs would lie on that lowland that they speak of. If fish were to go through and spawn it would seem to me that when they come in and roll those logs off on practically no water, that spawn would be destroyed. With this sediment, etc., I could not see a possibility for salmon to stay there and have any fry develop.

Mr. CLARK. Is there anything between Grand Falls and Woodland?

Mr. MURCHIE. From Woodland it is stated that there were five or six miles of rips. I think one statement was made that there were five or six miles of rips. From Woodland to Grand Falls the distance, I would say, would be around ten miles by water. That was all woods and when they built that dam at Woodland they made a flowage. That flowage, according to my judgment, is within a mile of Grand Falls. What is flowage to-day is where that timber has been killed out.

Mr. CLARK. What became of the original bed of the stream?

Mr. MURCHIE. It probably is there just the same. It has made a sort of lake, but there is no way for any one to see the original bed of the stream to know whether it would be gravel bottom or mud. There might possibly be a mile of rips after that flowage until you get to what they call the foot of the canal.

Mr. MILLS. I think you stated to me or to some person what you thought of the natural fishway that might be there at the Salmon Falls dam now, where the cotton mill is now, if one of the gates were left open. What is your view as to that?

Mr. MURCHIE. I do not believe there is any fishway that could be built that could be as good as the natural flowage that is there at present on the American shore.

Mr. MILLS. Do the salmon go up in the daytime as well as at night when they are going up to spawn, or do they go chiefly at night?

Mr. MURCHIE. I could not answer that.

Mr. MILLS. If one of the gates were left up in the cotton mill dam, as it is at present, during the run of salmon, do you think they could utilize that natural fishway that you speak of?

Mr. MURCHIE. I certainly do.

Mr. MILLS. And you think that would be better than any artificial fishway that could be constructed?

Mr. MURCHIE. I do.

Mr. MILLS. That is all.

Mr. DUDLEY. Mr. Murchie, are there any sawmills in operation this side of Woodland?

Mr. MURCHIE. At Baring.

Mr. DUDLEY. Are there any at Milltown?

Mr. MURCHIE. Not to my knowledge.

Mr. DUDLEY. When you spoke of four or five million logs coming down, you had reference to the time when there were several mills at Baring, had you not?

Mr. MURCHIE. Yes, sir.

Mr. CLARK. Do you mean a million logs or a million feet of lumber?

Mr. MURCHIE. A million feet of lumber.

Mr. DUDLEY. Those mills are all gone now at Milltown?

Mr. MURCHIE. The mills are there. They are not manufacturing.

Mr. DUDLEY. How many mills are there?

Mr. MURCHIE. Murchie's mills and Eaton's mills.

Mr. DUDLEY. Still there?

Mr. MURCHIE. On the American side.

Mr. DUDLEY. Are they tearing down Murchie's mill?

Mr. MURCHIE. Not to my knowledge.

Mr. DUDLEY. The Murchies have sold the mill?

Mr. MURCHIE. Yes, sir.

Mr. DUDLEY. Mr. Murchie, when was it that you put the fry in the Mohannes stream?

Mr. MURCHIE. I would say in 1911 or 1912.

Mr. DUDLEY. The Mohannes flows into Baring Bay?

Mr. MURCHIE. As nearly as I could say, yes, just at the upper end of it.

Mr. DUDLEY. And that is this side of Woodland?

Mr. MURCHIE. Yes.

Mr. DUDLEY. Who suggested putting the fry in Mohannes stream? Why was Mohannes stream selected?

Mr. MURCHIE. Well, it was probably my own judgment.

Mr. DUDLEY. Do you know why it was selected?

Mr. MURCHIE. I say it would probably be my own judgment that it was selected. I was overseer of fisheries here. I had authority to have that fry placed where I thought we might get some young salmon, and I knew of no place to put it. I tried two chances; I took one down below the Dennis stream and I tried the Mohannes stream. My experience was not very great in that line.

Mr. DUDLEY. And you say that the salmon were there the next year?

Mr. MURCHIE. Some.

Mr. DUDLEY. These were Atlantic salmon, were they?

Mr. MURCHIE. Yes, sir; Atlantic salmon.

Mr. DUDLEY. Do you usually catch Atlantic salmon in the fresh water up there?

Mr. MURCHIE. I never caught any in my life except in the Union pool.

Mr. DUDLEY. But you do not fish for Atlantic salmon in the fresh waters except at the pool, at the head of the tide waters?

Mr. MURCHIE. Well, I went up there to see if these young fish were there. I do not fish for salmon in the way of going fishing; I was doing my duty to the Government to see if they were alive there. That is what I went there to fish for; not for pleasure.

Mr. DUDLEY. The mere fact that you did not catch any there is not any evidence that they were not there?

Mr. MURCHIE. No, sir.

Mr. DUDLEY. Have you had anything to do with the sawmill business since 1917?

Mr. MURCHIE. No, sir.

Mr. DUDLEY. How many cases of infection from bruises or cuts in your mills do you know of?

Mr. MURCHIE. I could not name one.

Mr. DUDLEY. That is all.

Mr. POWELL. On the average, how many eggs are there in the roe of the salmon?

Mr. MURCHIE. I could not answer that; I should think hundreds of thousands.

Mr. POWELL. Mr. Calder, do you know?

Mr. CALDER. I think we compute them at about ten thousand on an average; more in the large fish and less in the small. I am speaking from memory, but that is approximately correct.

Mr. PARSONS. I would like to ask one question. Mr. Murchie, you spoke of this natural channel which we hope to use as a natural fishway.

Mr. MILLS. He did not say anything like that, Mr. Parsons.

Mr. PARSONS. If the water is too strong for the fish to go through, could it be improved by building pockets in the ledge, a few pockets at little expense.

Mr. MURCHIE. I think the ledge is full of pockets, natural pockets.

Mr. MILLS. You are speaking of the cotton mills?

Mr. MURCHIE. Yes.

Mr. PARSONS. I understood him to say that fish went up there and that it was a natural fishway.

(Thereupon, at 1.15 o'clock p. m., a recess was taken until 2.15 o'clock p. m.)

AFTER RECESS.

The Committee reconvened at the expiration of the recess, the same parties being present as aforesaid.

Mr. PARSONS. Mr. Chairman, I would like to make just a little explanation in relation to a conference. The Commission has heard

something about a conference. There were two conferences; Mr. Calder had reference to one and I had reference to the other. Not wishing to do anything that would be detrimental to the interest of the people of New Brunswick, I took every measure possible to ascertain what their wishes might be in relation to the matter. I had a conference first with Mr. Burden here at the St. Croix hotel at Calais, and at his suggestion I conferred with higher officials. I took our inspector of fishways, Mr. Perkins, and our engineer, Mr. Green, and we went to Fredericton and there met Mr. Burden again and Colonel Logue and a Mr. Harrison, and we talked the matter over. No objection was raised to that plan but Colonel Logue said, "I wish to confer with Mr. Robinson, the Minister of Lands and Mines." I afterwards received the letter from Colonel Logue, stating that he had referred the matter to Mr. Robinson and that he had no objection to the arrangement.

Now, the other conference which Mr. Calder referred to was one had later in relation to the adoption of the plans to be used. We met here and examined the rivers in both locations. Is that correct, Mr. Calder?

Mr. MURCHIE. That is, the plans for these two fishways?

Mr. PARSONS. Yes.

Mr. CALDER. I might say this, although not in contradiction of anything that Mr. Parsons has said; it is really not the affair of the provincial government; Mr. Parsons consulted with the provincial authorities and he afterwards ascertained that he should have consulted with the Dominion authorities. No matter what the provincial authorities said, it was not binding upon the Dominion authorities.

I will help Mr. Parsons make another explanation, and I know he wants to be fair and furnish the Commission with information that is strictly reliable. Mr. Parsons read a paragraph from the letter of Mr. Found, the Deputy Minister of Fisheries, dated November 21, 1921, in which he stated, among other things, that fishways in dams of forty feet in height and over had not been found to be effective in Canada. Mr. Parsons stated then—and I know he meant to be fair, and I am just making the correction for him—that after receiving that and as a result of that he entered into the agreement with the St. Croix Pulp & Paper Company under which they were released from their obligation to build a fishway in their dam. Mr. Parsons, I think, must be in error. I do not mean to take any advantage of him. I think Mr. Parsons wrote me under date of August 24, three months prior to that November, with reference to that matter, and I have my answer to his communication several days later, the 27th, I think, in which I told him that we would not be party to it. I am merely stating it in the absence of

my chief, as his name has been mentioned here in connection with it and his letters have been mentioned, and I can not possibly see how the letter from Mr. Found, bearing date of November 21, 1921, had anything to do with the agreement entered into between the State of Maine authorities and the St. Croix Pulp & Paper Company, because, as a matter of fact, Mr. Parsons wrote me several months prior to that saying that the arrangement had been practically carried out.

Mr. CLARK. You contend that whatever agreement was had which resulted in the building of this screen, and of the failure to build the fishway—that that result was never ratified or consented to by the Canadian authorities?

Mr. CALDER. Oh, certainly.

Mr. MILLS. That is our position, that it was not.

Mr. CALDER. I say that the agreement that they be released from their responsibility to build a fishway was never ratified by the Canadian authorities; never countenanced by the Canadian authorities.

Mr. PARSONS. The construction of the screen at Grand Lake stream was not begun until December; it was finished in February of 1922; and I came on and approved it in February, 1922. So it was after this.

Mr. CLARK. What I am trying to get at is this: What earthly connection would there be between a screen on a purely Maine stream and a fishway on the St. Croix?

Mr. MILLS. Perhaps Mr. Parsons can explain that.

Mr. CALDER. Yes; I could not explain it.

Mr. CLARK. It does not seem to me that that is a matter to be bargained about. You had a perfect right to put in your screen without any reference to the Canadian Government, had you not, Mr. Parsons?

Mr. PARSONS. Certainly, but we appropriated five thousand dollars, which would not build the screen by one-half; and we did the same here as we did at Sebago, and said to the manufacturers, after finding it was satisfactory to the parties in New Brunswick, and the fact that it was not regarded by the Canadian Government as feasible, that if you complete this screen or furnish the five thousand five hundred additional dollars to complete it, the State of Maine will not ask you to build this fishway at Grand Falls, because we think there are spawning grounds enough below. That was the idea.

Mr. CALDER. And we think there are not.

Mr. CLARK. I am trying to get through my head just how it is that the State of Maine could enter into a contract in consideration of the payment of five thousand dollars to release a corporation from complying with the law in building their dam. Now, the considera-

tion that you got was the money with which to help build the screen, whatever amount it was.

Mr. MILLS. \$5,500.

Mr. PARSONS. That is right.

Mr. CLARK. That was the consideration that you got. Now, what consideration did they get for the \$5,500?

Mr. PARSONS. That the State of Maine would not ask them to build a fishway at Grand Falls.

Mr. CLARK. Would not ask them to build a fishway on the American side at Grand Falls, would not that be?

Mr. PARSONS. That would be. Of course, that is not interfering with the Canadian Government, but so far as the State of Maine went, we would be satisfied with that screen at Grand Falls, because that was one of the branches of the St. Croix.

Mr. CLARK. Suppose they had not contributed that \$5,000; what would the State of Maine have done, compelled them to put in a fishway or attempt to?

Mr. PARSONS. I do not know about that.

Mr. CLARK. I will get it clear in my head when I read the record, but I am not clear about this bargaining between the corporation and the State of Maine.

Mr. MILLS. Of course, I think it will be admitted by all parties who are aware of the facts that the only place at which a fishway can be put in is on the American side at Grand Falls. It would be hardly fair to ask a corporation doing business in this international river to put in a fishway on the Maine side because the State of Maine says, "We have the power to make you," and then after that is put in, have the Canadian authorities come in and say—

Mr. CLARK. That would hardly be done under the circumstances, but what I was trying to get at was the power that the State of Maine had.

Mr. MILLS. The State of Maine undoubtedly had the power to say to the St. Croix Paper Company, "You must put in a fishway at Grand Falls." They probably did say that in times past, and the St. Croix Paper Company naturally did not want to put in a fishway that would cost them several thousand dollars more than a screen would cost them, and they naturally made the trade. The St. Croix Paper Company naturally would make that trade if they could make it.

Mr. CLARK. Of course, Mr. Parsons tells his own reasons.

Mr. MILLS. I think those are reasons that have arisen within the past few months, with all due respect to Mr. Parsons.

In view of a statement that Mr. Powell made this morning, and one that Mr. Whidden made this morning, I wish to take just a

moment of the Committee's time to read a statement by Yarrow, the authority quoted as to the Thames River. On page 225 of the first volume of Yarrow, who is the best known expert in the United States and Great Britain to-day, he says, referring to the Thames, "The last ten salmon I have known of were taken in June, 1833." Mr. Whidden was under the impression that they still caught them there.

The next witness I would like to call is Mr. Charles F. Pray.

CHARLES F. PRAY was produced as a witness on behalf of the respondents, and being first duly sworn, testified as follows:

Mr. MILLS. What is your occupation, Mr. Pray?

Mr. PRAY. Civil engineer.

Mr. MILLS. Of how many years experience?

Mr. PRAY. About thirty.

Mr. MILLS. Do you know anything about the river bed below Woodland in the St. Croix River?

Mr. PRAY. Yes, sir.

Mr. MILLS. You might state to the Commission when you were on that river bed and what conditions you found there and what you were doing there.

Mr. PRAY. I have been on it frequently in the last twenty years, more particularly about 1909 and 1910, when I was making a survey of the river and the topographical features, etc.

Mr. MILLS. Did the United States Government at one time have below Woodland a hydrographic instrument to take measurements?

Mr. PRAY. The United States Geological Survey, subsequent to the building of the Woodland dam, established a stream gauging station nearly a mile below the dam.

Mr. MILLS. At Woodland?

Mr. PRAY. Yes, sir.

Mr. MILLS. That was before the dam was built?

Mr. PRAY. No; that was after the dam was built. Prior to the building of the dam the gauging station was upstream a short way, about what was then known as Sprague's Falls. The building of the dam necessitated removing it.

Mr. MILLS. And after the dam was built they established it about a mile below the dam?

Mr. PRAY. Yes, sir.

Mr. MILLS. Is it there now?

Mr. PRAY. No, sir.

Mr. MILLS. When was it taken away? Do you know?

Mr. PRAY. No; I can not give the exact date. It would be somewhere around 1915. I may be out of the way a year or two.

Mr. MILLS. Do you know why it was taken up?



Mr. PRAY. Yes; because the river bed filled up so with pulp; it did not stay constant; it was changing so that the rating curves, so-called, were not accurate and could not be relied upon.

Mr. MILLS. And is the material that was shown here this morning that which you speak of?

Mr. PRAY. That is what it was attributed to.

Mr. MILLS. What has been your experience as to that material being found on the bed of the river below Woodland?

Mr. PRAY. It can be found anywhere.

Mr. MILLS. It can be found all over?

Mr. PRAY. Anywhere where the water reaches and flows.

Mr. MILLS. To a sufficient extent, do you think, to prevent the successful spawning by salmon.

Mr. PRAY. As to the fish I do not know; I do know that the deposit forms in various depths. I have seen it several feet deep.

Mr. MILLS. And all over the river?

Mr. PRAY. All over the river.

Mr. CLARK. How far down does that deposit go before it becomes stationary?

Mr. PRAY. I could not say. It gets as far as there is any current.

Mr. MILLS. This was taken at the screen at the cotton mill. It would be twelve miles from the Woodland dam to the Canadian Cottons' screen.

Mr. PRAY. Yes.

Mr. MILLS. And all over that river for a length of twelve miles you will find it deposited on the bottom of the river.

Mr. PRAY. In a greater or lesser degree.

Mr. MILLS. There is one other thing that Mr. Murchie has suggested to me. You have had some experience with this material sticking on the wheel at the Canadian Cottons, have you not?

Mr. PRAY. It will stick to anything and everything.

Mr. MILLS. Do you or do you not have considerable difficulty in removing it from the wheel there?

Mr. PRAY. Well, I would not say any great difficulty. It can be scraped off with any sharp instrument.

Mr. MILLS. But it will stick to that wheel revolving?

Mr. PRAY. Yes; I have seen it on the wheel when the wheel was running. Of course, it was only in small amounts, but it was there.

Mr. MILLS. There is nothing further that I have to ask the witness. There might be some question possibly by the Commissioners, because Mr. Pray has been an engineer on the river.

Mr. POWELL. Have you any connection with the cotton mills, Mr. Pray?

Mr. PRAY. Yes, sir.

Mr. DUDLEY. This condition that you have described was all in the river below Woodland?

Mr. PRAY. Yes, sir.

Mr. POWELL. Does it remove in the winter time, or does it appear right along?

Mr. PRAY. Well, of course, it depends upon the stage of the water; that is, the amount of water flowing in the river. When the stage is low more pulp will be deposited there. As the flow increases, naturally it scours out some of it and carries it along to some further place and drops it there. It drops into the quiet places and sticks to everything. In flood times, in the spring, there will be more pulp noticeable drifting in the river than at other times.

GEORGE F. PINDER was produced as a witness on behalf of the respondents, and, after being first duly sworn, testified as follows:

Mr. MILLS. You reside in St. Stephen, Mr. Pinder?

Mr. PINDER. I do.

Mr. MILLS. What is your age, Mr. Pinder?

Mr. PINDER. Seventy-three.

Mr. MILLS. You have been associated in fishing trips with the late Frank Todd for a great many years, have you not?

Mr. PINDER. I have, yes.

Mr. MILLS. And you fished together every year?

Mr. PINDER. Yes.

Mr. MILLS. Have you been familiar with the salmon fishery on the St. Croix?

Mr. PINDER. Yes.

Mr. MILLS. Will you state to the Commission where the salmon which ascended the St. Croix were in the habit of spawning? Where are the spawning grounds?

Mr. PINDER. Well, I could not state where they spawned, but the natural spawning ground for them would be all the way from Vanceboro dam down the main river. That is what we always considered.

Mr. MILLS. Do you know of any spawning grounds between Grand Falls and Woodland that in your judgment would be suitable?

Mr. PINDER. There would have been previous to the building of the paper mill dam, but now I presume it would be all dead water.

Mr. MILLS. The paper mill dam caused a flowage back for a number of miles?

Mr. PINDER. Yes; a flowage back.

Mr. MILLS. Do you know whether there would be any suitable spawning ground below Grand Falls?

Mr. PINDER. Below Grand Falls?

Mr. MILLS. Below Woodland, I mean.

Mr. PINDER. Well, in the vicinity, between Sprague's Falls, as we used to call it, and Baring; that is in the quick water. That would be the only spawning ground that I should consider as such.

Mr. MILLS. That would be the only possible chance there would be?

Mr. PINDER. Yes.

Mr. MILLS. How long is it since you have fished at Union pool for salmon?

Mr. PINDER. I have not fished within ten years.

Mr. MILLS. That would take you back to 1913. Prior to that time, how did you find the fishing there?

Mr. PINDER. It was very poor for years.

Mr. MILLS. Very poor for how many years?

Mr. PINDER. Well, for ten years previous.

Mr. MILLS. And prior to that how was the fishing?

Mr. PINDER. The fishing was at its best as we knew it forty years ago, and I will say that it has deteriorated after the first one or two years. I think that Mr. Todd and I were the first ones that got a salmon at the dam with a fly, over four years ago.

Mr. MILLS. That is at the Union dam. Then, for a year or two you had good fishing?

Mr. PINDER. For a few years we had fairly good fishing.

Mr. MILLS. But the last time you fished was in 1913 and for a few years back of that the fishing had gone down very badly?

Mr. PINDER. It amounted to very little.

Mr. MILLS. That is all.

Mr. DUDLEY. When you had good fishing, Mr. Pinder, what did you consider good fishing? Do you mean fly fishing?

Mr. PINDER. I mean fly fishing, yes. We never fished very steadily; we had to wait on the tide, etc., but if we went to the dam and got a salmon on one of our trips we thought we were doing very well. The first season Mr. Todd caught somewhere in the vicinity of sixty salmon during the summer.

Mr. DUDLEY. How long ago was that?

Mr. PINDER. I should think that would be forty or forty-five years ago. I am now speaking just from memory. I can not give you the date accurately.

Mr. DUDLEY. Were you on the river fishing in the years from 1900 to 1905 when Mr. Murchie said there were great quantities of salmon there?

Mr. PINDER. No; I was not.

Mr. DUDLEY. Mr. Murchie testified that there were great quantities there. He said they were very plentiful. Were you there during those years?

Mr. PINDER. No; I did not fish in those times.

Mr. DUDLEY. Have you been up or down the river from Grand Falls to Woodland since the Woodland dam was built?

Mr. PINDER. I have not.

Mr. DUDLEY. So you have no knowledge of the condition of the river yourself?

Mr. PINDER. Not from Grand Falls down, but I have been from Grand Falls up.

Mr. DUDLEY. I am speaking of the river from Grand Falls to Woodland.

Mr. PINDER. No, sir.

Mr. CLARK. I want to ask one question. I notice you speak of fly-fishing and one of the witnesses spoke of desiring to get a fish that would answer to the fly. Are there certain classes of salmon that will not answer to the fly and others that will?

Mr. PINDER. That is as we understand it. There is a small percentage of the salmon that do not take a fly.

Mr. CLARK. Are they a distinct species?

Mr. PINDER. No, sir. They will take a fly to-day and probably not take one to-morrow. We can not tell that.

Mr. CLARK. Then, if there were an abundance of salmon you would not be able to discover it by your fly-fishing?

Mr. PINDER. We would not be able to discover it in that way, no.

Mr. CLARK. But you would be able to discover whether they were there or not?

Mr. PINDER. Yes.

Mr. CLARK. How would you discover that, by their jumping?

Mr. PINDER. Unless you saw them in a pool you could not tell.

Mr. CLARK. I was trying to get at whether there was any class of salmon that would not respond to a fly.

Mr. MILLS. The Pacific salmon will not take a fly.

Mr. DUDLEY. Colonel Whidden told me in conversation this morning that the salmon that had been coming up this river prior to 1880, when he and Mr. Ward had fry put into the river, would not rise to the fly. That was the explanation that he gave me.

Mr. POWELL. How deep was that pool, the Union pool?

Mr. PINDER. I do not know, but I should not suppose there were more than fifteen feet.

Mr. MILLS. That is at high water?

Mr. PINDER. No; we would not fish at high water.

Mr. MILLS. Would there be fifteen feet at low water?

Mr. PINDER. At about the fishing pitch there would be that.

Mr. POWELL. And the pool might be full of salmon and not one would go by?

Mr. PINDER. Yes; there would be numbers probably that would not rise at all, but there were certain stages of the tide when they would rise apparently better than at others. On the incoming flow we would get more. I am speaking of fifteen feet; that would be the extreme depth.

Mr. POWELL. Then, whether or not they rise to the fly would depend upon weather conditions too, would it not?

Mr. PINDER. Yes, sir.

Mr. DUDLEY. Do you mean fifteen feet at dead low water?

Mr. PINDER. No; at our fishing point.

Mr. DUDLEY. At about what stage of the tide would that be?

Mr. PINDER. Probably three hours on the ebb, from two to three hours.

Mr. POWELL. That would be about half tide.

Mr. PINDER. Yes; about half tide.

Mr. MILLS. That is all, Mr. Pinder. I think perhaps it will be admitted by Mr. Parsons that the cotton mill fishway was taken out in 1919. Otherwise, I would call Mr. Graham to prove that.

Mr. PARSONS. If you state that I will admit it.

Mr. MILLS. It was taken out in 1919, and the manager of the electric light company states that the Union fishway went out in 1920. If that is taken on the record it will save the time of swearing and examining witnesses. I have no other evidence. There was one other witness that we expected to have here, but he is ill, and I shall have to ask Mr. Murchie to state the nature of his evidence. Mr. Murchie has talked with him.

Mr. MURCHIE. The testimony is merely corroborative of what the other witnesses have shown. When salmon were running in the river we had a family of Carlows down the river who went into salmon fishing as a commercial venture and maintained several weirs. Webster Carlow told me that in 1908 those weirs had become unprofitable and they had to abandon them. That would be two years after the paper mill started. He said, further, that for one or two years after that they went into the herring line. For one or two years after that it was not unusual for them to get several salmon in seining the herring weir, but in 1910 it had become an exception for them to get any salmon in the herring run at all.

That corroborates what the witnesses have stated as to the decline of the salmon.

Mr. DUDLEY. Are they still fishing there?

Mr. MURCHIE. No; they have not maintained a weir since 1908.

Mr. DUDLEY. I mean for any purpose?

Mr. MURCHIE. They have not maintained herring weirs for four or five years, but they had herring weirs from 1908 to four or five years ago.

Mr. MILLS. We have no further witnesses, may it please the Commission.

Mr. POWELL. Have you any rebuttal testimony, Mr. Parsons?

Mr. PARSONS. I just want to call Mr. Perkins for one question.

F. M. PERKINS, a witness on behalf of the petitioner, who had been previously sworn, was recalled and testified further as follows:

Mr. PARSONS. It has been insinuated by Mr. Mills here that this was a recent frame-up of mine in relation to the spawning grounds below Grand Falls. I will ask you, Mr. Perkins, whether you remember before we went to Fredericton to have the conference with the New Brunswick officials that we looked over the spawning grounds below Grand Falls.

Mr. PERKINS. We did, as I remember.

Mr. PARSONS. And that the agreement that you and I signed on behalf of the State of Maine was after we had examined the spawning grounds and after the conference at Fredericton?

Mr. PERKINS. That is as I remember it.

Mr. MILLS. No questions. Mr. Chairman, I think in view of the fact that Mr. Parsons has referred to this agreement on several occasions it would be only fair on his part to send us a copy of that agreement. I think we should be allowed to have a copy of that agreement. I do not suppose there would be any objection on your part, Mr. Parsons, to furnishing us with a copy?

Mr. PARSONS. Certainly not.

Mr. MILLS. I would like to ask the Commissioners if this matter will be decided by the full Commission.

Mr. CLARK. Yes.

Mr. MILLS. Then, I would suggest that we be permitted, rather than make an argument now, to submit an argument in writing.

Mr. CLARK. That was your idea, Mr. Powell, was it not?

Mr. POWELL. Yes; that was my idea.

Mr. CLARK. Will you allow a suggestion in that connection, Mr. Mills?

Mr. MILLS. I should be glad to at any time.

Mr. CLARK. If your reflections on the case should lead you to do it, I think the Commission would not find any objection to your discussing the question as to whether or not the Commission can act at all in this matter.

Mr. MILLS. In answer to that you will recall that at the outset of this case I said that as far as my clients were concerned, we were not raising any question as to the jurisdiction of the Commission.

Mr. CLARK. Well, that is not what I am getting at. The question is not whether we will assume jurisdiction, but whether we have the right to do so.

Mr. DUDLEY. When should the arguments in writing be submitted?

Mr. POWELL. Probably within twenty days.

Mr. DUDLEY. Say, by September 25?

Mr. POWELL. Yes.

Mr. PARSONS. I will state to the Commission that it is the object, of course, of the Department of Inland Fisheries and Game for the State of Maine in the construction of fishways to make just as little expense as possible to dam owners and corporations and at the same time have fishways effective.

Now, we have had some conference here in relation to the construction of fishways at the Union dam which can be effected at very little expense; it has been suggested at perhaps less than one thousand dollars, and I think the Commission must have considered the fact that there had been some talk with the Canadian Cottons; that we would make a natural fishway out of the sluiceway which, with a few changes, could be used instead of building a fishway at that place. Whether it would be of any advantage to this Commission to understand just what those suggestions are pro and con is a question for them. Mr. Mills could state his proposition.

Mr. POWELL. You could submit those suggestions in your arguments.

Mr. PARSONS. That would be entirely satisfactory. I would like to have the Commission in its decision construe Article III of the Treaty referred to, and if the Commission assumes jurisdiction over these fishways, give such authority to Canadian and Maine authorities over the repairs and erection of new fishways on the St. Croix River as shall leave the matter in the hands of the Department of Marine and Fisheries of Canada and the Department of Inland Fisheries and Game for the State of Maine; so that without any further delay we could get together and agree upon what repairs should be made from time to time on all of them.

Mr. MILLS. That is practically set out in the petition, I think.

Mr. POWELL. I am simply speaking for myself in this matter; each member of the Commission decides according to his own view; although my mind is perfectly open, I am somewhat disposed to think that fishways in dams of forty feet in height are not ordinarily a success. But one thing I would like you gentlemen to treat in your brief factum that you are preparing is the question as to whether or not the ends of pleasure fishing could not be better served by applying the money to the development of fry and placing the fry in the water than to create fishways and ladders. It is just a matter that I would like you to discuss.

Mr. PARSONS. That is what we propose if we have these two fishways, to plant fry under the Grand Falls dam and in the brooks.

Mr. MILLS. I think most every expert of the Maine department and of the Federal departments at Washington and Ottawa, all the writers that I have read, have stressed that point, that it is more satisfactory at the present time to invest money in fish fry and spawn than in any other way.

Mr. POWELL. In submitting your different ideas you might give us the authorities on that.

Mr. MILLS. Of course, we have to find a suitable place to put the spawn. That is the all-important question.

Mr. POWELL. Gentlemen, on behalf of Senator Clark and myself, I wish to express our thanks and to ask you, Mr. Mills, to convey our thanks to the city council for the free use of this room. I also wish to express the great amount of pleasure we have both had in coming to your beautiful town. It is a progressive town and I think perhaps it is one of the few instances in which John Bull has the advantage in respect to the development of towns. When I first knew Calais it eclipsed St. Stephen beyond description, but the people of St. Stephen are rapidly catching up in the race of progress.

Mr. MILLS. I want to again express my thanks to the Commission for hearing me, as I said, at the outset, without having received the consent of the Government of Canada.

I never let an opportunity like this go by when I am representing interests in the town of St. Stephen and vicinity to say publicly—and I would like Senator Clark particularly to hear this—that the town of St. Stephen is the most up-to-date little town in the Maritime Provinces. We believe we have here one of the finest little manufacturing centers anywhere in the Maritime Provinces.

I want to express my thanks to you Commissioners for the courtesy extended to me at this hearing. I have tried to make it as brief as we thought the interests of our clients demanded.

Mr. CLARK. I think you have left nothing to be desired, Mr. Mills. (Thereupon, at 2.10 o'clock p. m., the Committee adjourned.)



HEARING BEFORE INTERNATIONAL JOINT COMMISSION IN THE MATTER  
OF THE APPLICATION OF WILLIS E. PARSONS, COMMISSIONER OF  
INLAND FISHERIES AND GAME FOR THE STATE OF MAINE, FOR AP-  
PROVAL OF CERTAIN FISHWAYS IN THE SAINT CROIX RIVER.

ARGUMENT SUBMITTED ON BEHALF OF CANADIAN COTTONS, LIMITED, F. H.  
TODD & SONS, AND MARITIME ELECTRIC COMPANY, LIMITED, IN OPPOSI-  
TION TO SAID APPLICATION.

1. It is submitted that the applicant has not shown by evidence or otherwise that the value of migratory fish in the Saint Croix River is now or in the future can be made of sufficient value to warrant the expenditure necessary to the installation of the fishways asked for by the applicant.

The evidence shows that migratory fish—such as salmon, gasperaux, and shad—were plentiful in the Saint Croix River in the early days, and as far back as 1825 were caught in very large quantities. That shad and gasperaux have not visited the river for a great many years. That in 1850 the annual catch of salmon was stated to be about two hundred, becoming gradually less. That for a few years prior to 1906 the annual catch of salmon had diminished to about fifty fish. That immediately after the year 1906 even this number became very much less, and that within a few years after 1906 the salmon fishery became practically extinct, with the possible exception of an occasional fish. This latter statement is borne out by the evidence of Mr. Frank C. Murchie. Colonel C. R. Whidden, one of the applicant's witnesses, stated that he caught his last salmon in 1910. Percy L. Lord, another of the applicant's witnesses, stated that he had good success in his early years fishing below the Union Dam, but the fishing became so poor that after fishing a whole season without getting a single fish he became discouraged twelve or fifteen years ago; and it is submitted that, notwithstanding the fact that there was a fishway in the Union Dam until the year 1920 and a fishway in the dam of the Canadian Cottons, Limited, until 1919, the salmon practically ceased to go up the river shortly after the year 1906; that in 1906 the dam at Woodland, Maine, erected by the Saint Croix Paper Company, was completed, and the plant of the Saint Croix Paper Company was in operation. At Woodland a town was built, the sewerage of which entered the Saint Croix River. Waste stuff and waste pulp, slivers of wood and bark, and acid in the operations of the Saint Croix Paper Company at Woodland were deposited in the river; sawmills have been operated on the river for years, and it is respectfully submitted for the consideration of the Commission that the sawdust, sewerage, waste pulp, slivers,

bark, and acids deposited in the river were the causes which caused the salmon to cease frequenting the river Saint Croix, and to such an extent that between the years 1906, when the plant of the Paper Company commenced operation and the dam was erected at Woodland, and the year 1919, when the fishway was taken out of the dam at Canadian Cottons, Limited, the salmon had ceased coming up the river Saint Croix entirely, or, if not entirely, the number of salmon coming into the river were so few that the quantity and value were almost negligible.

As to the expenditure necessary to install a fishway at the Union Dam, the evidence shows by the letter of Messrs. Green and Wilson, Civil and Constructing Engineers, of Waterville, Maine, to the Saint Croix Gas Light Company that the fishway proposed by the applicant would cost seven thousand seven hundred and forty-seven dollars (\$7,747.00) to install. That the applicant admitted that the fishway which he desired installed at the dam of the Canadian Cottons, Limited, would cost considerable more than the fishway he desired installed at the Union Dam, so that it is fair and reasonable to suppose that the cost of the two fishways would amount to from fifteen to twenty thousand dollars. Taking the lesser amount, namely, fifteen thousand dollars, at six per centum, which is a rate less than the rate at which the owners of these dams can borrow money, the annual cost, without taking into consideration depreciation, would be nine hundred dollars (\$900.00) per year, and there is no evidence to show that the salmon fishery on the Saint Croix since 1906 has been worth one hundred dollars (\$100.00) per year, nor was there any evidence submitted to the Commission tending to show that the fishery could be made of any such value. In this connection, the applicant called two witnesses who expressed their opinion that salmon, after having left the river, would return in later years if the fish found that the conditions in the river were made suitable, or were placed in such a condition that the salmon could go up the river to the spawning grounds; and, notwithstanding the fact that the natural spawning grounds of the salmon in the Saint Croix River, namely, the headwaters of the river, had been shut off from the salmon by reason of the erection of a dam at Grand Falls and a dam at Woodland, that the salmon, if they found no obstacle in their way in first entering the river, would ascend as far as they could and there lay their spawn if suitable spawning ground was found; and it is further attempted to be shown by the applicant that there were such suitable spawning grounds in the river below Woodland. It is, undoubtedly, true that salmon will return to a river, even after they have remained away for some years,

provided the causes of their departure have been removed, and provided that they can reach their natural spawning beds in the upper waters of the river. This condition in the Saint Croix River, however, has not been brought about, and the causes of the departure of the salmon are still existent. The sewerage and sawdust, pulp waste, bark, wood slivers, and acids still enter the river, and there are no spawning beds below Grand Falls. One of the applicant's witnesses, Mr. F. M. Perkins, expressed the opinion that there is "plenty of chance" for the fish to spawn below Grand Falls. The word "chance" is, undoubtedly, correct, but the evidence discloses that salmon were never known to spawn below Grand Falls. That fry put in the Mohannes Stream, which empties into the Saint Croix below Woodland, did not return to the river, and that the bed of the stream below is covered with pulp waste, and other waste wood products.

2. If the argument submitted under heading "I" hereof is not conclusive, then the respondents further submit that the building of fishways at the Union Dam and at the dam of the Canadian Cottons, Limited, would be of no benefit to the salmon fishery in the River Saint Croix, by reason of the fact that migratory fish are unable to pass through the fishway in the dam at Woodland owing to the height of said dam; and even if fish could pass through this fishway, they are prevented from ascending to the upper waters of the Saint Croix by reason of the dam at Grand Falls in which dam there is no fishway.

As to the fishway in the dam at Woodland, the respondents submit that it has not been shown, by experience or otherwise, that it is practical for salmon or other fish to pass through a fishway in a dam which is forty feet or more in height, and that no fishway of a greater height than thirty feet has yet been found practical. Mr. F. M. Perkins in his evidence stated that he had seen salmon in this fishway at Woodland, but was unable to state what year it was he saw them. No doubt, Mr. Perkins did see salmon in this fishway before a screen was placed across the foot of Grand Lake, which lake is one of the head waters of the Saint Croix, as salmon prior to that time; that is, salmon trout and land locked salmon, were in the habit of coming down from Grand Lake, and it is safe to assume that the salmon seen by Mr. Perkins in the fishway at Woodland were salmon which were coming down the river from Grand Lake. Notwithstanding Mr. Perkins's evidence that salmon have "a chance to spawn" between Woodland and Grand Falls, the evidence discloses that salmon were never known to spawn in this locality, and the evidence of Colonel C. R. Whidden, George F. Pinder, and in fact of all the witnesses who were questioned on this matter, was to the effect that the salmon

ascend to the headwaters of the rivers to spawn, and the dam at Grand Falls is of such a height that even if there were salmon entering the River Saint Croix at the present time, and even if the salmon could pass through the fishway at Woodland, they would not be able to ascend to the upper waters of the Saint Croix by reason of the dam at Grand Falls. When this dam at Grand Falls was erected, it was understood that a fishway would be installed. The installing of a fishway at Grand Falls has been absolutely prevented by an agreement made between Willis E. Parsons, Commissioner of Inland Fisheries and Game for the State of Maine, the applicant in this proceeding, and the Saint Croix Paper Company. The statement of Mr. Parsons before the Commission shows that this agreement was to the effect that if the Saint Croix Paper Company would contribute fifty-five hundred dollars toward the cost of a screen to be placed at the foot of Grand Lake to prevent the salmon from coming out of Grand Lake into the River Saint Croix that they would be relieved from installing a fishway in the dam at Grand Falls. The fifty-five hundred dollars was paid by the Paper Company for the purpose mentioned and the screen has been placed at the foot of Grand Lake, thus preventing the salmon trout and land locked salmon from leaving Grand Lake and entering the Saint Croix River. The applicant in making this agreement has put himself out of court so far as his application to this Commission is concerned. The applicant can not now compel the owners of the dam at Grand Falls to install a fishway and without a fishway in the dam at Grand Falls, even if salmon could ascend that far, which it is submitted that they can not do, it would be impossible for them to get above Grand Falls to their natural spawning grounds, and the application on this ground alone should be dismissed.

3. As to the question of jurisdiction. While the evidence discloses that the fishways formerly installed in the Union Dam and the dam of the Canadian Cottons, Limited, were situate on the Canadian side of the River, and the plans for new fishways filed with this Commission were made with the intention of having them installed wholly on the United States side of the river, the respondents are not raising the question of jurisdiction of this Commission.

#### CONCLUSION.

4. (a) The respondents submit that the prayer of the petitioner herein should not be granted.

(b) That if an order is made granting the prayer of the petition, the carrying out of such order should be made necessary only upon the demand of the Marine and Fisheries Department of the Do-

minion of Canada, and the Commissioner of Inland Fisheries and Game for the State of Maine.

(c) That no order should be made as to the installation of a fishway at the dam of the Canadian Cottons, Limited, as at the present time if one of the gates owned and controlled by Canadian Cottons, Limited, is left open, or partially open, a natural fishway is then provided which is better than any artificial fishway that can be built.

(d) That if an order is made for the installation of a fishway in the Union Dam, the order should be that the old fishway should be rebuilt and in the same location, of the same kind and structure as the old fishway, and not in accordance with the plans filed.

(e) And if an order should be made for the installation of either or both fishways as asked for, then the order should be that said fishways be installed at the expense of the Commissioner of Inland Fisheries and Game for the State of Maine on the ground that the installation of these fishways are nothing more or less than an experiment as to whether or not salmon will spawn on the ground where Fishery Officer Perkins states the salmon would have "a chance to spawn" below the dam at Grand Falls.

All of which is respectfully submitted.

(Sgd.) N. MARKS MILLS.

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HEARING BEFORE THE INTERNATIONAL JOINT COMMISSION IN THE  
MATTER OF THE APPLICATION OF WILLIS E. PARSONS, COMMISSIONER  
OF INLAND FISHERIES AND GAME FOR THE STATE OF MAINE, FOR  
CERTAIN RULINGS AND CONSENT FOR CONSTRUCTION OF FISHWAYS  
IN THE ST. CROIX RIVER.

ARGUMENT SUBMITTED BY SAID COMMISSIONER, WILLIS E. PARSONS, AND  
BRIEF COMMENT IN REPLY TO SOME OF THE SUGGESTIONS OF SOLICITOR  
OF RESPONDENTS, N. MARKS MILLS.

May it please your Honorable Body: The necessity of any argument in regard to the jurisdiction of the Honorable Commission over fishways in the St. Croix River on international boundary, other than to give its consent to the repairs of the same as may be needed from time to time and the construction of new fishways to replace old ones removed, has been wholly eliminated by respondent's counsel, who, in keeping with undisputed testimony of petitioners, admits that the fishways are not a *diversion* of the water "affecting the natural level or flow of boundary waters on the other side of the line" and that they are not a "*further*" use or obstruction or diversion, "not heretofore permitted," or in fact any *obstruction*

whatever as contemplated in Article III of Treaty between the United States and Great Britain, relating to boundary waters and questions arising between the United States and Canada, signed January 11, 1909.

The only question now remaining is whether, if the International Joint Commission has any jurisdiction whatever, it will give its consent to have fishways rebuilt that had been in existence for sixty years and culpably allowed to go to decay and become of no value, by the respondents.

I think the testimony must convince the Honorable Commission that the two lower fishways in question were not removed four years ago, but that they had been neglected and allowed to decay so that about four years ago they wholly disappeared and could not have been of any value as fishways for some years before that. And further, it is fair to presume that corporations that would so neglect fishways that they wholly disappear would not be very likely to be particular about keeping the fishways open so that salmon could meander through their rotting timbers to the waters above.

One conclusion and one only can be drawn, and that is, that these lower fishways, the key to the whole river, were so neglected for years that the fish could not get by and ceased coming in large quantities, although the testimony shows that salmon are still in the river, and that several were caught this year.

I think the Honorable Commission will be satisfied on reviewing the whole testimony that it was fairly good fishing at Union Pool and elsewhere in the river until a few years ago. As shown, one man caught four salmon recently, and Howard V. Lee also testified that he saw a few salmon this year and that three or four years ago there were plenty of fish. It seems they were still trying to go by after these two lower fishways had become worthless and even wholly removed.

Do we want the salmon back in this river as in the other rivers on the near-by coast? Do the people of St. Stephens and of Calais, of New Brunswick and of Maine, want them back? The Commissioner of Maine has no interest except to do his duty by the people of his State and incidentally be of benefit to a neighboring Province.

But respondents say that salmon can not get over Grand Falls. They never could except in high water and the testimony so shows, and yet the river used to be full of salmon. When the salmon spawn in the fall it is frequently low water and then with the natural barrier at Grand Falls they had to spawn elsewhere and would do so again.

They are after *fresh water* in which to spawn and when they can get no farther upstream they prepare their beds for spawning and, as the testimony of Mr. Briggs shows, frequently spawn in a lake without going upstream at all. There was much testimony by respondents in regard to the pollution of the river, but fortunately it had to be all below Woodland, twelve miles below Grand Falls, as there are no mills at Grand Falls, but between there and Woodland miles of good, gravelly spawning grounds, as the testimony of Mr. Perkins and Mr. Briggs, experts of long standing, shows, "ideal spawning grounds."

Their own witness, Mr. Murchie, also testified there were spawning grounds below Woodland even, but thought the rolling in of logs would destroy the spawn. These spawning grounds above Woodland and below Grand Falls have no such condition and are ample and if the pollution of the river below Woodland is such as to keep ordinary fish out of the river it would not deter the hardy salmon, wild for a place to spawn, from going up into the clear water below Grand Falls and there depositing their eggs which would be all the safer on these spawning grounds from the other fish which might not work through the pollution.

Besides there are two fresh water brooks below that must be of some value.

The evidence in regard to the settling of sticky pollution in the river below Woodland that could not be swept out by spring freshets was rather overdone, for if such is the fact the river will be ruined and all are interested in preserving the industries upon our national boundary. It is the same kind of pollution as comes from the pulp and paper mills on the important salmon river, Penobscot, swept out every spring. We are not only interested in preserving our rivers but it is the present policy of the State of Maine, and, I think, always has been, to preserve the rights of the people in our navigable rivers and streams with as little expense and detriment to the mill owners as possible, and while Mr. Mills in an attempt to show the great expense of fishways quoted from a letter from our engineer, Mr. Green, that the proposed fishway at the dam of St. Croix Gas Light Company would cost \$7,747.00 installed, he did not present the further fact that by agreement the timbers were to be lightened, reducing the expense by one-half.

In the Canadian Cottons dam, with a few pockets in the ledge and the flow of water regulated by the gate, which was put in for a fishway when the dam was built, a natural fishway could be had. Their witness, Mr. Murchie, stated the fish used to go up there and that there were already pockets in the ledge, so that it might simply be that some arrangement could be made for the control of the water.

satisfactory to the Canadian and Maine authorities, without any blasting of new pockets.

Respondents further claim that a fishway at Grand Falls would be *impracticable* and that the one at Woodland is entirely useless and of no benefit and there is a disingenuous attempt on the part of respondents to distort Mr. Perkins' testimony in relation to the passage of salmon through the Woodland fishway. Mr. Mills says in his argument that Mr. Perkins said he had seen fish in the fishway at Woodland, but that it is fair to presume they were salmon coming down the river from Grand Lake. What Mr. Perkins said as shown by the reporter's notes, page 63, in answer to my question "whether or not you, yourself, saw fish in the fishway at Woodland," was, "I did, and I also saw them go through and jump out of the water after they got through the fishway." And in reply to Mr. Mills's question, on cross-examination, on page 72, Mr. Perkins said, "I saw a dozen in the fishway at that time. We shut down the upper gate and there were salmon about the whole length of the fishway, *working through*."

Mr. Mills again asked, "Did you see any at the top?" Mr. Perkins replied, "Yes; in the feed flume and from the feed flume out into the river," showing the fishway in good working condition and functioning properly.

The fact really is, as shown by the testimony, that every check has a rest pool and that salmon have no difficulty in passing from one check to another. The testimony further shows that one of the most successful fishways in Maine, up which millions of alewives pass every year, is fifty-two feet high; and alewives, although migratory fish, are not as gamey fish by any means as the fighting, leaping salmon of the Atlantic coast.

Mr. Mills has the same idea, however, as the New Brunswick officials, and as does also Mr. Found, the Ottawa official, as shown by an excerpt from his letter to the Commissioner introduced at the hearing. It will readily be seen why the usual arrangement, the same as at Sebago and other places in Maine, verbal though it was, was made between the Commissioner of Maine and the St. Croix Paper Co., the corporation owning the dam at Grand Falls, that a fishway would not be asked for by us at the falls if a screen was put in at Grand Lake outlet some twenty miles inland from the boundary line. The fishing at Grand Lake was growing poorer every year as the fish were going down over Grand Falls and could not return and although the Commissioner of Maine differed in opinion from the New Brunswick and Canadian authorities in regard to the feasibility of a fishway at Grand Falls it was much easier to get the evil remedied by a screen at the outlet of Grand Lake than to change the views and get the cooperation of the Cana-



dian authorities for a fishway at Grand Falls which Ottawa officials thought would be impractical. Before any arrangement was made, however, with the St. Croix Paper Co., to assist in building the screen, the New Brunswick authorities, by several conferences at Calais and Fredericton, were consulted and thorough examination of spawning grounds below Grand Falls made by Mr. Perkins, myself and others, as it was believed that a fishway would not be put in by the authorities at Ottawa unless the people of New Brunswick, through their officials, asked for it. They did not ask for it and were willing that the screen should be installed. As stated before, the agreement was verbal, but is just as binding so far as the State of Maine is concerned, as though written. The only paper signed by us was the following:

We, the undersigned, hereby certify that "screening the west branch of the River St. Croix as suggested," referred to in the above letter,<sup>1</sup> was in lieu of a fishway over Grand Falls on said river and was talked over with the Department of Lands and Mines at Fredericton, New Brunswick, with the Deputy Minister and other officials who assented thereto, and with the further result that a few days later the Department of Inland Fisheries and Game in Maine received the foregoing letter showing that it was satisfactory to the New Brunswick Minister of Lands and Mines, Hon. C. W. Robinson.

(Signed) WILLIS E. PARSONS,  
*Commissioner.*  
HARRY E. GREEN,  
*Engineer.*  
FRANK M. PERKINS,  
*Fishway Inspector.*

No written agreement was even asked for.

Work was begun on the screen, as stated, in December, 1921, and completed in February, 1922. Work was not begun until Mr. Found had written that a fishway at Grand Falls was impracticable, November 3, and Colonel Loggie, November 4, that Mr. Robinson had no objection.

The Commissioner then thought and still believes that the people of New Brunswick are primarily interested in the fishways in that Province and did not wish to do anything detrimental to their interest, hence moved with great caution in making arrangement for the screen.

There are seven dams on the river, as I remember. There has never been a fishway at Grand Falls, but below all dams except the two lower ones are provided with suitable fishways.

The two lower fishways should have been maintained and the dam owners are still liable for letting them go to decay and it would

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<sup>1</sup> Reference is to letter from T. G. Loggie, Deputy Minister, Nov. 4, 1921.

seem a travesty upon justice and complete abandonment of all rights of the people to now so far listen to their plaint as to permit them to defeat all benefit to be derived from the fishways above, or hide behind a screen in the inland waters of Maine as an excuse for not letting fish go to the splendid spawning grounds just below Grand Falls. These dams are now built and with suitable fishways kept open every season expert fish culturists have no doubt that salmon fishing on the St. Croix could be greatly improved in a few years, if not wholly restored, especially by planting young fry as in other waters.

Mr. Perkins, with his thirty-four years experience, as warden and fishway expert, and Mr. Briggs, one of the noted fish culturists of the country, both stated positively there were good spawning grounds below Grand Falls and such is the belief of others who can but see them in low water at any time in the summer season, with gravelly bottom, and, as they say, as good as on the Penobscot. Here, the Commissioner stated, the city of Bangor was expending "twenty-five thousand dollars" for a new fishway, but has learned from the engineer since that it is to cost thirty-two thousand dollars when completed.

These spawning grounds were examined, and conferences held with New Brunswick authorities, and letter received from Mr. Found, before any arrangement was made with the St. Croix Paper Company as sworn to by Mr. Perkins, notwithstanding the insinuation of Mr. Mills to the contrary. My observation as a practitioner in both State and Federal courts for over thirty-five years is that only third rate lawyers try cases by insinuation and innuendoes, and I certainly have too high opinion of Solicitor Mills to think for a moment that he was serious, or regarded it more than a byplay for momentary effect. The Commissioner has no personal interest other than as an official of Maine to whom the people of that State look for protection in their inalienable rights of fishing and hunting according to the laws of the State, the Federal authorities leaving the ownership and care of all fish and game, except migratory birds, to the several states.

In Maine, the passing of rules and regulations for fishing and hunting, which have the force of law, the establishment of game preserves, the enforcement of game laws, the support of fish hatcheries and the installing of fishways and screens are among the duties devolving upon one commissioner with such wardens and superintendents as he may appoint, hence his interest in the St. Croix River. With the cooperation of the Canadian authorities we believe fishing on the St. Croix can be restored as elsewhere in Maine. Even if regarded as an experiment, the same as it was at Dennysville,

where later 20,000 salmon went up the fishway in one season, it is worth trying and is something due the people of New Brunswick as well as Maine, and the expense does not devolve upon the State of Maine or Province of New Brunswick but upon the dam owners who are maintaining the obstruction in the river, and who let the old fishways go to decay, or removed them altogether.

The extensive works of various authors read into the case by Mr. Mills and with which many of us are familiar, have no bearing upon questions to be considered by the Commission other than to show our contention that shad and gaspereaux, or alewives, are more sensitive than salmon and while pollution and sawdust might drive them from the river, as well as other less hardy fish, the salmon can and do survive in such waters sometimes for weeks at a time, as claimed by several witnesses, including the expert, Frank M. Perkins, with thirty-four years experience, and that veteran fisherman, or veritable Isaak Walton, Colonel Whidden, and, further, that having gained the extensive spawning beds below Grand Falls would deposit their spawn on safer ground from the other fish by reason of that very pollution in the river below.

In calling your attention to a few salient points in the case, I have been as brief as possible, leaving the main argument to the Attorney General and Brother Dudley, of Calais, whose people are especially interested in these fishways.

The Commissioner, in asking for the ruling and consent for fishways in the St. Croix River, was anxious to expedite matters and save delay in necessary repairs and construction of new fishways in the future and, if possible, have the lower fishways built the present season.

He wishes to thank the Honorable Commission for the courtesy shown and brief time elapsed since the presentation of the petition and can but feel that a prompt ruling of the Commission will be followed by immediate compliance during the low water of the present season.

Respectfully submitted.

WILLIS E. PARSONS,  
*Commissioner of Inland Fisheries and Game.*

